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(54) Title: **ONLINE MULTIMEDIA SYSTEM AND METHOD**

(57) Abstract: A system and method for delivering a targeted advertisement, comprising means for performing the steps of classifying a consumer by assigning to the consumer a behavior classification based on a set of expressly defined set of preferences, an automatically derived set of preferences, and a prior purchasing behavior; selecting a targeted advertisement to be delivered to the consumer, based on the classification; presenting the targeted advertisement to the consumer; and monitoring an action immediately subsequent to the presentation of the targeted advertisement. According to another embodiment, a system and method are provided for delivering a streaming multimedia advertisement to a consumer, separately from streaming multimedia content, and presenting these seamlessly and without intervening delay.

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## ONLINE MULTIMEDIA SYSTEM AND METHOD

## FIELD OF THE INVENTION

The present invention relates to the field of online multimedia systems and methods, and more particularly to improved presentation methods, systems and architectures.

## 5 BACKGROUND OF THE INVENTION

Consumer media and content services are competitive businesses. Thus, they seek to deliver the highest quality content and/or service (i.e., consumer benefit) for the lowest perceived consumer price. In part due to the perceived value, consumers typically spend a large portion of their time experiencing and interacting with such media. Thus, as is well known, commercial subsidies for media content and delivery often maintain low cost while promoting advertiser's brands cost effectively. Further, such advertising, if efficiently targeted, may itself comprise value to the consumer.

A growing trend has been to try to integrate consumer commercial messages with media content, in order to closely link the commercial sponsorship with the media, and to prevent segregation of the commercial message from the media content. However, this integration limits the ability to personally target messages and separate sponsorship for various presentations of the media.

Typically, subsidies for content and services made publicly available on the Internet has been through commercial advertisements, in the form of static or crudely animated graphics. Compensation by the advertisers typically are dependent on impressions (presentation to a user), click-throughs (minimal interaction with a user), or network marketing (contingent payment based on consummation of a transaction with the user). Thus, these commercial models are most appropriate for electronic commerce vendors (e.g., retailers), and less desired for standard consumer brands sold through "bricks and mortar" distribution channels.

25 Multimedia advertising is considered more effective, and therefore more valuable, in establishing and promoting consumer brands, as compared to static graphic ads, such as banner ads and print ads. These multimedia ads both potentially convey a large amount of information in an entertaining and relatively passive format, and allow the producer of the ad to define a mood and tempo. Thus, multimedia advertisements of 15-120 seconds are highly valued for marketing of goods and promotion of brands.

A number of multimedia application developers have proposed delivery of advertisements in multimedia form, such as television-type commercials. Generally, these applications, which include Microsoft Windows Media Player, Real Networks Realplayer and Apple Corporation Quicktime, are suitable for the presentation of advertisements, but fail to

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address the user interaction and motivational aspects for accepting and viewing the advertisement. See, "Understanding the Advertising Application for the Realsystem G2", Real Networks, Inc.; Wang, Nelson, "Software Allows Streaming Ads Without Plug-in", InternetWorld, August 25, 1997; [www.narrative.com/technology.htm](http://www.narrative.com/technology.htm) (and referenced pages, re: Enliven rich media advertising solution), expressly incorporated herein by reference. Simply, without appropriate incentive, even users with broadband Internet connectivity, and especially those without, are unlikely to knowingly request a multimedia advertisement file from a remote server, at the cost of seconds or minutes of download latency, followed by a period for presentation, with accompanying usage of connection bandwidth. Likewise, without appropriate incentivization, users are also unlikely to knowingly accept a "push" of such advertising to them. Thus, the coordination of media content and commercials is preferably coordinated according to presenter-defined rules, rather than promoted by the receiver. Thus, while the concept of pulling or pushing multimedia advertisements is known, the issue of how to make such advertisements acceptable to the user remains, in the prior art, unresolved.

According to present technologies for switched packet networks such as the Internet, advertising is either directly and statically integrated with the media, or presented as separate transmissions, each of which requires a pre-buffering latency.

A particular advantage of the Internet media distribution is that updates may be made nearly instantaneously, and information may be substituted or customized based on an identification of the user, chronology, or otherwise. Thus, a user may be identified, and content specifically organized and presented to the user, based on both the user's request and the user's identification. A standard scheme for automatic identification and/or tracking of users exists, called an Internet browser cookie, or simply cookie, which provides a relatively small file on the user's computer created by the remote server and retrievable by the remote server. Cookies may be persistent, or expire at predetermined times, allowing permanent identification or simple session tracking.

The following patents, expressly incorporated herein by reference in their entirety, disclose aspects of network media delivery: United States Patent Nos. 6,199,082 (Ferrel, et al., March 6, 2001); 6,199,076 (Logan, et al., March 6, 2001), 6,198,920 (Doviak, et al., March 6, 2001), 6,185,625 (Tso, et al., February 6, 2001), 6,177,930 (Chernock, et al., January 23, 2001), 6,173,271 (Goodman, et al., January 9, 2001), 6,154,771 (Rangan, et al., November 28, 2000), 6,144,944 (Kurtzman, II, et al., November 7, 2000), 6,161,137 (Ogdon, et al., December 12, 2000), 6,094,677 (Capek, et al., July 25, 2000), 6,119,163 (Monteiro, et al., September 12,

2000), 6,108,703 (Leighton, et al., August 22, 2000), 6,101,180 (Donahue, et al., August 8, 2000), and 6,014,634 (Scroggie, et al.).

Advertisers often desire to target particular audiences for their advertisements. These targeted audiences are the audiences that an advertiser believes is most likely to be influenced by the advertisement or otherwise provide revenues or profits. By selectively targeting particular audiences the advertiser is able to expend his or her advertising resources in an efficient manner. Thus, it may be efficient to provide a system that allows electronic advertisers to target specific audiences, and thus not require advertisers to provide an single advertisement to the entire population. Currently, advertisers are able to implement a limited form of targeted advertising over the Internet. For example, Doubleclick implements such a method. This is accomplished by sending a block of data, such as a "cookie," from a remote host or server (i.e., a Web server) maintained by an advertiser to a computer (i.e., a client system) that has access to the remote server via the World Wide Web. The cookie can be used to identify the client system (by identifying the Web browser) and to instruct the server to send a customized copy of the requested Web page to the Web browser. Since cookies are also used to track a consumer's online activity, a Web server can deliver targeted advertisements to a consumer's Web browser, based on the consumer's online activity, as well as to compile information regarding the consumer's tastes and tendencies.

Advertisers are generally willing to pay more to deliver an impression (e.g., a banner ad or other type of advertisement) to users who are especially sensitive to advertisements for their products or are seeking to purchase products corresponding to those sold by the advertisers or are within a target demographic category, and the economic model often provides greater compensation in the event of a "click through", which is a positive action taken by the user to interact with the ad to receive further information. This principle, of course, actually operates correspondingly in traditional media. For example, a gardening tool manufacturer in generally is willing to pay more per subscriber to place advertisements in a magazine having content directed to gardeners than in a general interest or urban-directed publication. On the other hand, in an incentive advertising scheme, the publisher receives compensation or commission on a concluded transaction, and therefore the publisher has an incentive to properly target the advertisements in order to maximize compensation.

Accordingly, a conditional probability of a subsequent action by the user may be assessed for each interaction, and that, on the basis of that probability, an economic parameter may be altered. Thus, for example, the selection of a hyperlink by the user through a browser may be associated with a calculated probability that the user will subsequently purchase a good

or service. This probability may then be used to calculate an advertiser charge for delivery of an advertisement, or to prioritize the advertisements sent to the user in order to, for example, maximize the utility to the selected advertiser, the advertisement serving system operator, to the user, or some combination thereof. This calculated probability may also be used to adapt the information subsequently presented to the user. This probability may be calculated, for example, based on a population statistic plus a recent history of the particular user, a collaborative filtering scheme, a long-term monitoring of the user through the use, for example, of cookies and a database, or other scheme, or through express input of user characteristics, such as demographic profile, survey response, or a direct user communication. The logic used to predict the probability may be formal Bayesean, fuzzy logic, a multiple regression equation, neural networks, or other known logic.

The following references, each expressly incorporated herein by reference in its entirety, relate to user profiling or personalized media delivery: U.S. Patent Nos. 5,724,521 (Dedrick), 5,774,357 (Hoffberg et al.), 5,890,152 (Rapaport et al.), 4,602,279 (Freeman), 5,283,731 (Lalonde, et al.), 5,794,210 and 5,855,008 (Goldhaber, et al.), 5,974,398 (Hanson), 5,155,591 (Wachob), 5,191,410 (McCalley, et al.), 5,305,195 (Murphy), 5,201,010 (Deaton, et al.), 5,515,098 (Carles), 5,948,061 (Merriman, et al.), 6,006,197 (d'Eon, et al.), 6,009,409 (Adler, et al.), 5,893,075 (Plainfield, et al.), 5,937,392 (Alberts), 5,887,243 (Harvey et al.), 5,872,588 (Aras et al.), 5,774,170 (Hite et al.), 5,636,346 (Saxe), 5,870,724 (Lawlor et al.), 5,724,424 (Gifford), 5,838,314 (Neel, et al.), 5,231,494 (Wachob), 5,974,398 (Hanson, et al.), 5,933,811 (Angles, et al.), 6,006,265 (Rangan, et al.), 6,005,561 (Hawkins, et al.), 6,009,410 (LeMole et al.), 6,053,554 (Hendricks, et al.), 5,991,740 (Messer), and 5,227,874 (Von Kohorn).

In recent years, the field of data mining, or extracting useful information from bodies of accumulated raw data, has provided a fertile new frontier for database and software technologies. Methods for mining transaction databases to discover association rules have been disclosed in Agrawal et al., "Mining Association Rules Between Sets of Items in Large Databases", Proc. of the ACM SigMod Conf. on Management of Data, May 1993, pp. 207-216, and in Houtsma et al., "Set-Oriented Mining of Association Rules", IBM Research Report RJ 9567, October, 1993. See also, U.S. Pat. Nos. 5,615,341, 5,794,209, 5,742,811, 5,724,573, 5,819,266, 5,842,200, 6,061,682; 5,812,997 5,796,209, 5,724,573 5,812,997 (Agrawal et al.), and 5,884,305 (Kleinberg, et al.), expressly incorporated herein by reference.

User modeling means to create a model of the user that contains information about the user that is relevant for a particular system. Thus, the user modeling system seeks to define sufficient characteristics of the user to determine the prospective actions or preferences of the

user, and employ these characteristics to make predictions. Often, the user modeling system is used interactively with the user, facilitating the use of the system by intelligently predicting the user's inputs. The scope of the user model may include, for example, characteristics of the user which are independent of content, such as language, reading level, fields of expertise, physical impairments, and the like, as well as content specific characteristics, such as the user's taste and interests for motion picture entertainment, for example as part of a film recommending system, or the user's knowledge of a given academic subject, for an educational or testing system. User preferences may be time dependent, and therefore diurnal or seasonal variations may be important factors in defining an accurate model of the user, i.e., the predicting the intent and/or desires of the user in a respective context. Different systems use different techniques for constructing and implementing a user model. The simplest and most straightforward is a technique of a user survey, requiring some dedicated activity of the user toward defining the user model. A second technique monitors the activities of the user to detect patterns and actions indicative of user characteristics. Another way of creating a user model is through the use of collaborative filtering, in which the user typically identifies himself or herself with a class of users, by predefined or adaptive categories, to classify the user into a group with common characteristics of interest. Feedback may also be employed to deduce user preferences and refine adaptive models. See, Greer, J. E., & McCalla, G. I. (Eds.): "Student Modeling: The Key to Individualized Knowledge-Based Instruction" NATO ASI Series F Vol. 125 (1993) Berlin: Springer-Verlag; Gaines, Brian R., and Shaw, Mildred L.G., "Concept Maps as Hypermedia Components", (Internet); Akoulchina, Irina, and Ganascia, Jean-Gabriel, "SATELIT-Agent: An Adaptive Interface Based on Learning Agents Interface Technology", In Anthony Jameson, Cecile Paris and Carlo Tasso (Eds), User Modeling: Proc. Of the Sixth Intl. Conf. UM97, Vienna, New York: Springer Wein, New York (1997); Benaki, Eftihia, Karkaletis, Vangelis A., Spyropoulos, Constantine D, "Integrating User Modeling Into Information Extraction: The UMIE Prototype", In Anthony Jameson, Cecile Paris and Carlo Tasso (Eds), User Modeling: Proc. Of the Sixth Intl. Conf. UM97, Vienna, New York: Springer Wein, New York (1997); Maglio, Paul P., and Barret, Rob, "How To Build Modeling Agents to Support Web Searchers" In Anthony Jameson, Cecile Paris and Carlo Tasso (Eds), User Modeling: Proc. Of the Sixth Intl. Conf. UM97, Vienna, New York: Springer Wein, New York (1997); Hohl, H., Böcker, H., Gunzenhäuser R.: "Hypadapter: An adaptive hypertext system for exploratory learning and programming", User Modeling and user adapted Interaction 6, 2-3, (1996) 131-156; Höök, K., Karlgren, J., Waern, A., Dahlbäck, N., Jansson, C.G., Karlgren, K. and Lemaire, B.: "A glassbox approach to adaptive hypermedia"; User Modeling and User-Adapted Interaction, 6, 2-3, (1996)

- 157-184; Boyle C. and Encarnacion A.O.: "MetaDoc: an adaptive hypertext reading system"; User modeling and User-Adapted Interaction, 4 (1994) 1-21; Brusilovsky, P., Eklund, J.: "A study of user model based link annotation in educational hypermedia"; Journal of Universal Computer Science, Vol. 4 No 4 (1998) 429-448; Chin, D.: "User Modeling in UC: the Unix Consultant"; Proceedings of the CHI-86 Conference, Boston (1986); Moore, J.D. & Swartout, W.R.: "Pointing: A way toward explanation dialogue"; Eight National Conference on Artificial Intelligence, (1989) 457-464; [AVANTI homepage] <http://zeus.gmd.de/projects/avanti.html>; <http://zeus.gmd.de/UM97/Fink/Fink.html>; Fink, J., Kobsa, A., Schreck, J.: "Personalized hypermedia information provision through adaptive and adaptable system features: User modeling, privacy and security issues"; Eftihia Benaki, Vangelis A. Karkaletsis, Constantine D. Spyropoulos, "Adaptive Systems and User Modeling on the World Wide Web", Proceedings of the workshop, Sixth International Conference on User Modeling, Chia Laguna, Sardinia, 2-5 June 1997; Brajnik, G., Guida, G., Tasso, C., (1990): User modeling in Expert Man-Machine Interfaces: A case study in Intelligent Information Retrieval, in IEEE Transactions on systems, man, and cybernetics, 20:166-185; Brajnik Giorgio and Carlo Tasso, (1994): A shell for developing non-monotonic user modeling systems in International Journal of Human Computer Studies, 40:31-62; Croft, B. and Thompson, R., (1986): An overview of the IR Document Retrieval System, in Proceedings of the 2nd Conference on Computer Interfaces and Interaction for Information Retrieval; Karkaletsis, E., Benaki, E., Spyropoulos, C., Collier, R., (1996): D-1.3.1: Defining User Profiles and Domain Knowledge Format, ECRAN; Kay, J., (1995): The um toolkit for Cooperative User Modeling, in User Modeling and User-Adapted Interaction, 4:146-196; Jon Orwant, (1993): Doppelganger Goes to School: Machine Learning for User Modeling, M.Sc. thesis at MIT; J. Orwant, "For want of a bit the user was lost: Cheap user modeling", MIT Media Lab, Vol. 35, No. 3&4 (1996); Rich, E., (1983): "Users are individuals: individualising user models", International Journal of Man-Machine Studies, 18:199-214. See, 5,966,533 (Moody), 6,055,573 (Gardenswartz, et al.), 5,819,285 (Darnico, et al.), 6,012,051 (Sammon, et al.), 6,006,218 (Breese, et al.), 6,012,052 (Altschuler, et al.), 6,014,638 (Burge, et al.), 5,991,735 (Gerace, et al.), 5,978,766 (Luciw), 5,977,964 (Williams, et al.), 5,974,412 (Hazelhurst, et al.), 5,963,645 (Kigawa, et al.), 5,801,747 (Bedard), 5,758,259 (Lawler), 5,945,988 (Williams, et al.), 6,005,597 (Barrett, et al.), 5,973,683 (Cragun, et al.), 5,946,490 (Lieberherr, et al.), 5,446,919 (Wilkins), 4,970,681 (Bennett), 5,710,887 (Chelliah, et al.), 5,438,355 (Palmer), 5,895,454 (Harrington), 5,920,477 (Hoffberg et al.), PCT/US99/65237 (Metabyte Inc., [www.mbtv.com](http://www.mbtv.com)), each of which is expressly incorporated herein by reference.

Micropayments are often preferred where the amount of the transaction does not justify the costs of complete financial security. In the micropayment scheme, typically a direct communication between creditor and debtor is not required; rather, the transaction produces a result which eventually results in an economic transfer, but which may remain outstanding subsequent to transfer of the underlying goods or services. The theory underlying this micropayment scheme is that the monetary units are small enough such that risks of failure in transaction closure is relatively insignificant for both parties, but that a user gets few chances to default before credit is withdrawn. On the other hand, the transaction costs of a non-real time transactions of small monetary units are substantially less than those of secure, unlimited or potentially high value, real time verified transactions, allowing and facilitating such types of commerce. Thus, the rights management system may employ applets local to the client system, which communicate with other applets and/or the server and/or a vendor/rights-holder to validate a transaction, at low transactional costs.

The following U.S. Patents, expressly incorporated herein by reference, define aspects of micropayment, digital certificate, and on-line payment systems: 5,930,777 (Barber); 5,857,023 (Demers et al.); 5,815,657 (Williams); 5,793,868 (Micali); 5,717,757 (Micali); 5,666,416 (Micali); 5,677,955 (Doggett et al.); 5,839,119 (Krsul; et al.); 5,915,093 (Berlin et al.); 5,937,394 (Wong, et al.); 5,933,498 (Schneck et al.); 5,903,880 (Biffar); 5,903,651 (Kocher); 5,884,277 (Khosla); 5,960,083 (Micali); 5,963,924 (Williams et al.); 5,996,076 (Rowney et al.); 6,016,484 (Williams et al.); 6,018,724 (Arent); 6,021,202 (Anderson et al.); 6,035,402 (Vaeth et al.); 6,049,786 (Smorodinsky); 6,049,787 (Takahashi, et al.); 6,058,381 (Nelson); 6,061,448 (Smith, et al.); 5,987,132 (Rowney); and 6,061,665 (Bahreman). See also, Rivest and Shamir, "PayWord and MicroMint: Two Simple Micropayment Schemes" (May 7, 1996), expressly incorporated herein by reference; Micro PAYMENT transfer Protocol (MPTP) Version 0.1 (22-Nov-95) et seq, <http://www.w3.org/pub/WWW/TR/WD-mptp>; Common Markup for web Micropayment Systems, <http://www.w3.org/TR/WD-Micropayment-Markup> (09-Jun-99); "Distributing Intellectual Property: a Model of Microtransaction Based Upon Metadata and Digital Signatures", Olivia, Maurizio, <http://olivia.modlang.denison.edu/~olivia/RFC/09/>.

It is also noted that, while a user may have to account for rights of third parties in order to use content, advertiser or sponsor subsidies may inure to the user based on viewing or access of advertisements, click-throughs, or the like. Therefore, while funds transfers may be necessary vis-à-vis sponsors, service providers, and rights-holders, the process may be transparent and potentially without net cost to the user. In this case, the risks of tampering and fraud based on manipulation of client-system resident data and applications will generally be low, and therefore



the level of security and protection of these client-resident data and applets may also be low. However, as deemed necessary, a high degree of security may be implemented, such as employing a hardware "dongle", secure encryption and watermarking techniques, or real-time transaction verification. There are a number of pay-per-view (PPV) systems known; however, 5 as a necessary element of security, a proprietary or encrypted media stream is required to enforce rights limitations. See, U.S. Patent Nos. 6,057,872 (Candelore), expressly incorporated herein by reference.

The prior art streaming media advertising technology can deliver (a) banner advertisements located around the periphery of the video stream; (b) Banner ads seen before a 10 stream starts, (c) Streaming video commercials using a play list approach that inserts commercials at the beginning or at the end of the stream (This approach, while becoming common, is severely limited due to its lack of targeting capabilities and significant buffering delays.) and (d) non-targeted commercials inserted in a live broadcast, again using a play list approach. The prior art technologies or business processes do not exist that can insert a targeted 15 commercial in a web page, in a pop-up window, in a video stream (live or broadcast) at any insertion point from a single ad serving system. The current ad serving systems are disjoint, meaning that banner ads are served from one source (i.e. Doubleclick), interstitials are served from another source (i.e. Unicast), video ads are served from another source (e.g., ibeam, or Akamai) and audio ads are served from another separate source (as served by Hiwire and 20 Lightningcast). This approach is inherently limited by design. Specifically, a system designed to serve a certain type of media cannot be reconfigured without a significant cost and time. The companies that have created video ad serving technologies require clients to host all of their video content (advertisements and existing video clips) at the company's hosting facilities. Also, in order for these companies to insert advertisements into existing video streams, they must edit 25 the video clip to include the advertisement in one file. Since everyone ends up watching the same commercial, the return on investment on ad dollars is severely limited.

## SUMMARY OF THE INVENTION

The current convergence of multimedia formats necessitates an ad serving system that can serve ads in any format depending on the particular call/request made by a web site or a user. The preferred embodiment of the system according to the present invention provides a system that serves ads in every media format, regardless of connection speed, browser type and player type. It therefore allows advertisers to provide each user with the most sophisticated and effective media type (interactive audio/video commercials) based on the user's machine and network capabilities. The system according to the present invention also allows advertisers to efficiently manage their advertising campaigns.

The present invention offers a platform that inserts a multimedia commercial (audio/video) with full interactivity that can be completely server side and database driven, meaning that it has the ability to serve any type of media to the web page at any time. This commercial is either streamed directly from the server (Broadband users) or accessed from the hard drive where ads have been pre-cached in a particular order using a software process (narrowband users). The server side processes know where the advertisement must be shown. The commercial is delivered with the desired interactivity specified by the advertiser. This interactivity is completely customizable and dynamically modifiable, as it is a server side process and therefore under central control. Thus, the present invention is not limited to broadcast media-style commercials, and the entire presentation may be interactive and/or adaptive. Alternately, the interactivity may be provided externally to a linear multimedia presentation, through, for example, the control application, a web browser or graphic user interface elements.

According to a preferred embodiment, before a audio/video ad commences, the advertising location/space on the web page is filled with a base media (gif or animated gif) to avoid a black space. Upon the completion of the commercial, the ad space converts back to the gif/animated gif, thus offering multiple and continuous branding opportunities for an advertiser.

The interactivity around or within the commercial is database driven to fully maximize the server side capabilities of the control application processes. Users' responses can be gathered instantaneously, the effectiveness of a campaign quickly measured, and changes made to the campaign to make maximize effectiveness. For example, an advertiser may want to offer a specified number of free samples of a new product recently launched. The control application can wrap that offer around a commercial, with "Special Value" (hyperlink) buttons presented, to encourage the user to fill out a sample request. After the specified number of requests have been received, the system can dynamically change the interactivity by either canceling the offer

altogether or replacing the offer with something else. A set of customizable hyperlinks may be provided in conjunction with the video window, to activate applets, scripts, "daughter windows" positioned for an unobstructed view of the stream, or perform other known user interface functions.

5           Ad insertion is a process in which one or more advertisements are inserted in one or more archived video streams or live video broadcasts (Program). The Ad Insertion Platform, according to an embodiment of the invention, seamlessly inserts audio/video advertisements (or gifs /flash ads) before, during or after archived video content, eliminating the need to host the ad and video on the same server. The central servers host the ads, and intelligently insert, or  
10       control insertion of them, into the presented video stream. This eliminates current technology limitations of encoding and storing the advertisements and streams on the same platform.

          The present method provides the benefit of no buffering delays between the ad and video content. Additionally, the Ad Insertion Platform according to the present invention provides narrowband users with a higher quality viewing experience with the actual video content, by  
15       providing additional time for loading of the featured video content, while the inserted ad is playing. Thus, in instances where the ads are cached locally (or provided on distributed media), the presentation time for the ads may be used to prebuffer media content for later presentation. Thus, the actual media delivery rate can be slower than real-time, since the advertisement display time is available for download. Further, the appearance of a cached advertisement may  
20       be triggered, at least in part, by a state of the media buffer, which indicates an impending shortfall. Preferably, in such a case, an advertisement may be inserted at the next preencoded insertion point, to provide time for the buffer system to return to a normal state.

          Presently, for an advertiser to present a video advertisement in conjunction with content, a copy of the advertisement must be hosted, and streamed from the same server as the content,  
25       because the advertisements must be encoded along with the video stream as one single stream and stored on the same streaming server as the video stream itself. As a result, the same advertisement has to be shown to everyone viewing a particular video stream, thus severely limiting targeting capabilities. If the advertisement and content are not within the same stream, known systems require considerable buffering delays (10-30 seconds) between advertisement  
30       and the video stream(s). There are no interactivity features built into existing ad insertion vehicles.

          The system and method according to the present invention address these problems. The present invention thus provides a single location for ads, and allows for the insertion of an ad in any third party stream. This eliminates current technology limitations of encoding and storing

the advertisements and streams on the same platform. Because ads are inserted from a centralized location, it can offer advertisers a single point of contact for inserting the same advertisement in multiple streams that are hosted with multiple content providers. The present invention can insert advertisements of any format into live or on-demand video streams. For example, a web publisher is serving a Quicktime (.mov) movie to its user base. The system has the ability to insert an ad that is of any format: Quicktime (.mov.), Windows media (.asf, .wma), or RealPlayer (.rm). Since the system does not perform the play list functionality, it has the ability to call both the commercial and the existing stream at the same time. Once the commercial starts playing, the Insertion mechanism buffers the existing stream at the same time. Once the commercial has ended, the existing stream plays immediately. Thus, there are no intervening buffering delays. The present invention can insert different ads within the same video stream, depending on the user specifications. The system can also target based on the origin of the video request. Since the present invention does not insert ads in the stream, but rather inserts a unicast (commercials) stream into a multicast (video content) stream, the unicast stream may be customized based on user information.

The present invention also allows for the insertion of an ad in a live stream being broadcast by any third party. With other models, broadcasters and/or content providers must buy enabling hardware or move their broadcast to the ad serving provider's server farm. The present invention provides a distributed software solution, whereby web publishers simply need to communicate limited information with the central servers. One type of information communicated is when the commercials are to be inserted. Using control application software, a broadcast producer can submit commercial break information ahead of time or instantaneously. For example, an advertiser might seek to present advertisements Weekly or Daily: A producer can submit information about its weekly programming schedule (For example, Monday 9:30 AM to 4:30 PM, commercial breaks at 10, 30 and 50 minutes past the hour). A producer can also use an interactive screen to send information to the central server for processing further, to trigger an instantaneous commercial. For example, a commercial break is coming up in 5 seconds, 10 seconds, 30 seconds etc. The broadcast producer also enter information about the length of the commercial break (30 seconds, 60 seconds, 90 seconds, etc.)

Combined with the functionality of the "Interactive Screens" and the "Ad insertion Utility", the system can seamlessly insert advertisements into any live broadcast, not requiring any additional hardware or encoding software; the broadcaster or content provider continues to manage their broadcasts from their current facility. The present invention provides the broadcaster with a seamless and efficient ad insertion process.

The ad insertion utility is used to uniquely identify each user and manage the ad insertion workflow process. According to a preferred embodiment, each user is prompted to download the utility, a small program executing on the user's computer or media browser, the first time that the user attempts to watch a video stream through the system. Each time a user clicks on a video stream from a cooperative site, the utility sends to the central server, the site and section they are coming from. At this time the user is categorized and placed into a channel based on their profile and the web site they are accessing. This allows the system to send different users different ads (when they are accessing the same site or the same content from different locations) based on their channel placement. The ad insertion utility also controls the media stream presentations.

The Broadcast Utility allows Broadcasters to communicate with the central servers in real-time. The main purpose of this utility is for broadcaster to notify the central servers when commercial breaks will occur in their live broadcast. Integration of the ad-serving technology platform into a website is as simple as embedding a module of Javascript and HTML code in the web page source code.

Through an Active-X control (in case of Internet Explorer or AOL browser), or a Java applet control (in case of Netscape browser), the client (i.e., user system) preferably maintains a list of all the cached commercials, so that when a particular commercial needs to be shown to the user, its presence is checked in the cached commercial list, and if it is present, shown from the cache. The commercials may be identified specifically, or as a class. For example, commercials in different languages may be present, and automatically presented based on client-defined parameters. If the requested commercial is not present, then it is queued for download in proper sequence, or an animated gif for that commercial may be shown to the user, and a hint is provided to the download utility to download the commercial for later presentation. In case the user has a browser other than Internet Explorer, AOL, or Netscape and for non-Windows platforms, animated GIFs may be shown to the user, permitting cross-platform compatibility.

A first aspect of the present invention provides a system and method for seamlessly inserting a rich media advertisement into online video content, in a manner that maintains coordination and control of presentation while eliminating the need to host the media and advertising content on the same server. Therefore, a content media server system can be both physically and logically separated from an advertising media server, yet provide a seamless integrated experience for the user. Therefore, the various types of content may be in independently determined formats, for example archived formats or live formats of the same or different kinds. In particular, the advertisement can be either presented live or in real time, or prestored on a server, e.g., in

compressed format. According to the present invention, ads may also be stored local to the user, the presentation of which is controlled in conjunction with the media content.

The systems and methods according to the present invention are compatible with interactive media presentation systems, and in particular an advertisement may be delivered with an interactive application that provides additional information to the user and collects data from the user when provided. An application may also support electronic commerce, for example allowing the user to define or make a purchase.

A particular aspect of the invention provides a system and method that allows independent digital media streams to be presented to the viewer in continuous segments, without buffering delays between segments. Therefore, an interactive or otherwise non-predefined presentation may be provided without apparent discontinuities. Particularly, the media content may be interspersed with advertisements in a continuously presented stream, without presentation buffering delays.

A preferred embodiment of the invention performs this seamless presentation as follows. As is known, media playing applications require a small buffer of a media stream in local memory, in order to accommodate temporary degradation in stream bandwidth, and to ensure that an entire block of data is available for decompression and processing. Preferably, the system according to the present invention employs a standard third party presentation application, such as Realplayer, Quicktime or Windows Media Player. These known applications, as noted above, require prebuffering, but also are able to process only as single media stream, and thus when changing streams, introduce an intervening prebuffering latency due to the requirement of treating each stream as a separate session. In contrast, the present invention provides an application wrapper for the media presentation program, interacting at an API or event level. The application notably is capable of launching and controlling multiple media player sessions simultaneously, although typically only one session will be presenting media at any given time.

The first session launched must introduce a prebuffering latency, as is required by the underlying media player application. However, as the player application nears the end of its presentation, its communication bandwidth requirement abates, resulting in available communications channel bandwidth. The player application notifies the application that the downloading has ceased, and the channel bandwidth is therefore available. The application then immediately, before the first session has completed playing its media presentation from the buffered portion, commences prebuffering the subsequent session. Therefore, after the initial prebuffering period, a continuous buffered stream may be presented to a viewer, though the use

of multiple media player sessions under common control.

These various media player sessions are independent, and indeed may draw their respective media content from different servers. Thus, this technique allows the entertainment media content to be separately hosted from the advertising content. The present application  
5 further provides a means for communicating between independent media player sessions, allowing cross interactivity without requiring the media streams themselves to be interactive.

According to the present invention, a set of control parameters, which may be predetermined, adaptive, or dynamically generated, are provided to control the application program. Typically, this set of control parameters is established based on an analysis of the  
10 various media streams as well as a set of rules, requirements or preferences for the presentation.

According to a preferred embodiment, the various sessions are managed by a remote server, which communicates parameters with the application program periodically, e.g., every 2 seconds. However, in certain circumstances, a more autonomous presentation is supported, in which the application manages and controls itself. Preferably, in the case of advertising subsidy  
15 of entertainment media, the application provides a reliable and secure report of at least aggregate media and advertising consumption data for auditing and compensation accounting. Therefore, in one embodiment, the present invention preferably supports anonymous reporting of confirmation, for audit purposes. This anonymity preserves user privacy for at least two concerns; first, the user's explicit selection of media and direct interaction with the system, and  
20 second, an implicit profile generated of the user based on monitoring of activities over time and comparison with other users.

Thus, the present invention is capable of delivering advertising interspersed with online video content, from separate and/or separately controlled sources, without buffering delays between the advertisement and the featured video content.

25 According to a preferred embodiment of the invention, an Ad Insertion System is provided within an ad-serving platform, which is designed to enable intelligent insertion of commercials at the beginning, during, and after video content. The system achieves the intelligent insertion of commercials regardless of the connection speed. The system also allows caching of commercials on the user's hard drive in order to minimize the requirement for  
30 streaming on narrowband connections. The Ad Insertion System consists of two components: an Ad Insertion Control, and a Caching utility. The intelligence to insert a commercial is dynamically distributed throughout the process flow in the system, and interaction between different processes occurs in multiple ways. The decision to deliver a particular commercial in a particular format is not linear nor does it follow a single thread. Rather, a parallel, multithreaded

process is employed. The technology seeks to use the path of least resistance to arrive at a particular commercial to be shown. Should this path not be available, the system uses a cascade down approach to arrive at an equivalent decision. In a preferred embodiment, the intelligence is ever-evolving and adaptive, depending on the user's media player type or media player version. The system is therefore capable of adapting to play the right media format.

Typically, the structure of a media presentation, for example, insertion points or potential insertion points for commercials or objects appearing on-screen, will be provided in a metadata or out-of-band communication. Thus, a parameter file may be associated with the content. This parameter file is then processed to determine a set of rules or actions, which may be coextensive or differing from the media content parameter file, and indeed may represent data from multiple parameter files, for example for each segment of the presentation or for a plurality of interactive segments. The processed parameter file is then employed by the control application. The parameter file itself need not be totally predetermined, and may be provided or processed in small portions, and if processed remotely, delivered to the control application over a computer network before any action must be taken, allowing a dynamic, adaptive, interactive and/or variable presentation to be made, potentially responding to viewer and/or advertiser and/or media content owner considerations. The parameter files and processed parameter files are typically processed and stored in a central Internet-server database system associated with the control application, which generally also will serve as advertising server or control intelligence for serving advertisements.

The control application preferably encompasses a database, allowing a set of interactive buttons can be customized and dynamically updated for each advertiser. These buttons encourage immediate interaction with the brand and provide additional value to the users. Advertisers can use these interactive buttons to facilitate trial via a coupon or sample, provide more information, generate semi-qualified sales leads or facilitate e-commerce transactions. Users benefit from the ability to immediately obtain valuable information on products of interest as well as from special values offered by the advertiser. Users' interactions with the buttons are collected and classified in the database for performance reporting, aggregate learnings and future targeting efforts. The database may reside at a remote server, local to the user, or have local and remote portions. Preferably, the control application has a local database, and periodically communicates pertinent parameters with a remote central database, such that normal control application activities can be handled from locally stored data. However, certain interactive and dynamic media presentations may require on-line handshaking and interactive communications.

The present invention thus supports a business model that targets websites and streaming



video providers as clients, who will in turn sell the capabilities of the platform to their advertisers. The provider of the platform will therefore be able to generate revenues by offering a complete ad-serving technology platform to websites and/or streaming video providers, earning a 1) per client partnership fee and 2) revenue share or per ad served fee. This scheme, in turn, allows the platform to become universal, since it is not integrally associated with any particular content provider or advertiser. Of course, other business models are supported in which a closed system provides an advertiser or content owner an ability to exercise control over the user(s).

The system can deliver an audio/video advertisement (or any other media type) embedded in any location of a web page; or in a pop-up window that can be launched on any web page; or inserted at the beginning, end, or during an archived video stream; or inserted at the beginning, the end, or during a live video broadcast in absolute or relative time. The platform can deliver a full screen or less than full screen audio/video advertisement to a user's TV screen, if the TV is connected to a set-top box with a static or dynamic network address, an operating system and a media player. The platform allows advertisers to include interactivity as part of the advertisement, which can be encoded as a part of the video presentation (e.g., hyperlinks to portions of the image at a given time) or using screen buttons, generated by the control application, surrounding the video window. The advertisements can be targeted, based on a user's profile, ad viewing, and surfing (e.g., hyperlink usage) behavior. The system can track the user's ad viewing behavior from the first time they enter a cooperative web page. Using a robust data capture schema, every ad view and button click made by the user is captured in a database.

The platform may be completely database driven and contains several databases. These databases are divided into two categories: Media Databases and Psychographic Databases. The technology delivers an advertisement based on the user's preferences and other user related information and the web site information that is sent back to central databases. This information is preferably captured through JavaScript scripts that are customized to capture user profile information (player type, connection speed, browser type, user id-if the user has viewed a system ad before) and the web site information (Web Site Name, Web Site Section Id, Commercial ID). Once the system has gathered this information, the technology sends the user the appropriate advertisement and provides a set of customized screen buttons appropriate for the circumstances. Since the Platform is completely driven by database functionality, any aspect of it may be customized "on the fly."

According to one embodiment, the present invention provides an incentive program for

encouraging users to accept, and even seek out, multimedia advertising. This incentive program has primarily two foci; first, the compensation to the user is preferably directed toward subsidy of the broadband connectivity to the deliver medium, e.g. the Internet, and second, the incentive is awarded only on a positive feedback from the user that the user was present during playback of the commercial. Thus, an embodiment of the invention addresses the limitations of the prior art in two ways; it promotes broadband connectivity to the delivery medium, thus reducing the burden of the transmission bandwidth requirement on the user, and assures the advertiser that the user did, in fact, view the commercial. As an alternative to a customized feedback button, each commercial may terminate with an alphanumeric code, which transiently appears on the user screen. The user is then required to communicate the code, by electronic communication, for example through a web page, applet, e-mail or otherwise.

It is possible, according to the present invention, to provide targeted commercials without a priori knowledge of the viewer's identity. This can be done in two ways. First, the user system may define a client-side filter, to extract commercials from a multicast, dependent on the user profile. The system may then account for these commercials, both to the advertiser and to the user. The targeting may also be performed by using an external resource, for example Doubleclick or BeFree, to identify a commercial to be targeted based on the service provider identification of the user and the relevant characteristics thereof. In this case, compensating the user for viewing the commercial requires rather a collaboration with the service provider, or a dual set of relationships. If anonymity of user profile is a concern, then the user accounting may include a set of messages that transmit in a first message, using a secure digital signature, that a particular user has viewed an unidentified commercial, optionally placing a value on that commercial or aggregate value on a series of transactions. A second secure anonymous message is transmitted identifying the commercial, but providing no information identifying the viewer. Alternately, a pure anonymous transaction may be possible, in which the payment to the user takes for form of a token, entitlement to which is established by watching the commercial. Therefore, when the commercial viewing is confirmed, the user system, for example using a secure anonymous challenge-response authentication protocol, receives the token. Correspondingly, the advertiser's account is debited for the transaction. Other secure anonymous communications techniques are known; see, Hassler, Vesna, et al. "MiMi: a Java Implementation of the MicroMint Scheme"; Chomicki, Jan, et al., "Decentralized Micropayment Consoliation"; Azbel, Ilan, "Payword Micro-Payment Scheme. Strengths, Weaknesses and Proposed Improvements."; Neumann, B. Clifford, "Security, Payment and Privacy for Network Commerce", IEEE Journal, 13(8), Oct. 1995; Mellare, Mihir, et al., "iKP - A Family of Secure

Electronic Payment Protocols" (July 12, 1995); Chaum, D., "Achieving Electronic Privacy", Scientific American (August 1992) pp. 96-101; Chaum, D. et al., "Untraceable Electronic Cash" Proc. Crypto '88; Brands, Stefan, "Untraceable Off-line Cash in Wallets with Observers", each of which is expressly incorporated herein by reference.

5           The computer software application according to a preferred embodiment may also be modified and applied to other uses. For example, the software can be customized and co-branded for channel marketing, corporate communications, Continuing Practice and Education (CPE), employee training and other peripheral uses, based on its ability to present multimedia information in an interactive fashion, with network communications capability. In an  
10 educational system, the interactive process and confirmation of viewing may be used to implement a protocol, for example comprehension testing. The interactivity therefore allows a merging of the presentation and testing, within a single application framework, which preferably provides a high degree of integration with the Internet and web browser. If a user does not pass a test, a prior course segment may be repeated, or supplemental materials presented. After the  
15 segment is successfully completed, a subsequent unit may be presented.

It is therefore an object according to the present invention to provide a system and method for delivering media streams, in which streams are organized in a multithreaded manner to permit simultaneous presentation of a first stream and buffering of a second stream.

It is also an object of the present invention to provide a system and method for  
20 presenting a targeted advertisement, comprising classifying a consumer, for example by assigning to the consumer a behavior classification based on a set of expressly defined set of preferences, an automatically derived set of preferences, and a prior purchasing behavior; selecting a targeted advertisement to be delivered to the consumer, based on the classification; presenting the targeted advertisement to the consumer; and monitoring a user action  
25 immediately subsequent to the presentation of the targeted advertisement. According to another embodiment, a system and method are provided for delivering a multimedia advertisement to a consumer, comprising means for performing the steps of selecting an advertisement to be delivered to the consumer; presenting the advertisement to the consumer; and requiring an input by the consumer immediately subsequent to the presentation of the advertisement to confirm  
30 attention thereto.

It is also an object of the present invention to provide a system and method for caching a targeted rich media, online advertisement, comprising the steps of providing a uniquely user with a caching utility; classifying the user by assigning a classification based upon a set of expressly defined preferences or behaviors, an automatically derived set of preferences or

preferences, and/or a prior purchasing behavior; selecting a targeted advertisement to be cached on the user's local system based on the classification; caching the targeted advertisement and expunging advertisement from the local system based on time, frequency or change in consumer classification parameters.

- 5           These and other objects will be apparent from a review of the drawings and detailed description of the preferred embodiments. This task is solved by the characteristics of the independent claims. Additional embodiments arise from the sub-claims.

#### BRIEF DESCRIPTION OF THE DRAWINGS

10           The preferred embodiments of the invention will now be described by way of the drawings, in which:

Fig. 1 shows a sign-in screen;

Fig. 2 shows an application window having a set of iconic advertising buttons, as well as application control and interaction buttons; and

Fig. 3 shows the application window of Fig. 2, with a media player window;

15           Fig. 4 is a block diagram of a system according to the present invention, wherein the central server passes information through an advertiser server to a user;

Fig. 5 is a block diagram of a system according to the present invention, wherein the central server passes information independently of an advertiser server to a user;

20           Fig. 6 shows a flow diagram representing key processes of a method according to the present invention;

Fig. 7 shows an advertisement insertion system block diagram according to the prior art;

Fig. 8 shows a block diagram of an advertisement insertion system according to the present invention;

25           Fig. 9 shows a block diagram of an ad insertion control application according to the present invention;

Fig. 10 shows a process and example of an economic model for a business exploiting the system and method according to the present invention;

Figs. 11 and 12 show a popup player with and without wallpaper, respectively, according to the present invention;

30           Figs. 13 and 14 show an ad-insertion player with and without wallpaper, respectively, according to the present invention; and

Figs. 15 and 16 show a schematic diagrams of a digital rights management infrastructure according to the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

## EXAMPLE 1

As shown in Fig. 1, a user is requested to identify (username) and verify (password) himself on use of the system with a sign-in screen; Fig. 2 shows an application window having a set of iconic advertising buttons, as well as application control and interaction buttons. On clicking an advertiser icon button, a video media ad is called up and presented to the user.

As shown in Fig. 3, a media player is invoked, having a video window and interaction screen buttons. To stop the ad, the close button is selected. After the ad is finished playing the user may click "OK", to receive the reward, or "Instant win", as described below. Likewise, other functions may be presented. The media player window is "always on top", and therefore cannot readily be hidden during presentation. The application window also provides various management and portal functions, and of course may present updated news, weather, financial information, and the like, as is well known in the art.

When the Ad is playing, only the "Close" button is active, and the other buttons are inactive. After the commercial is over, the other 3 "action" buttons get activated for about 8 seconds; if the user clicks on one of the buttons, appropriate and corresponding action will take place; If the user does not click on any button, after 8 seconds, the "action" 3 buttons become deactivated again and the commercial starts all over again.

According to one embodiment of the invention, an online video ad may be converted into graphic interchange format (GIF89) advertisement, upon the completion of the video advertisement. Thus, after the advertisement is presented, an image may persist as a banner ad (for example with a hypertext link), allowing delayed interaction by the user without occupying a multimedia session.

According to a preferred embodiment of the invention, a software suite is provided which is distributed across a server and a set of clients. The server software interacts with client software for accounting, to provide control parameters, and to provide fresh content. The client software provides an advertising preference and management function (including communications with the server) as well as a commercial viewer. The advertising preference and account management function application is called ZeBar™. The ad viewer software is called ZeView™. The client software suite preferably performs the following functions: Loads ZeBar™ as the viewer machine boots up; shows an ad in a variable size Viewing Window with sound and motion; stores activity locally in the desktop and remotely on the web (every activity performed by a user related to ZeBar™ and ZeView™). This includes, but is not limited to, recording the following: Did the user close ZeBar™; Clicking on a button to see an ad; What

was the location of the button on ZeBar when it was clicked; Which button was clicked; Was the person online or offline; What ad was played; Was the ad completed; Did the user click on the OK button on time; Did the user visit the web site (see detail on "More Info" Button on ZeView™); Did the user click on the system proprietor's logo to visit the system proprietor's web site; and Did the user click Instant Win button; the software recognizes the connection speed or lack thereof and as such do the following: If the connection speed is 128 Kbps or less, prompt user to insert the CD in the CDROM drive; If the connection is missing, prompt user to insert the CD in the CDROM drive; If the connection speed is more than 128 kbps do not prompt the user to insert the CD in the CDROM drive; and the ZeView™ closes automatically if the user opens a new application.

The ZeBar™ is how the user views the ads and commercials, manages his profile(s), manages his point bank, and interacts with the system proprietor. ZeBar™ is designed in such a way that a user finds it non-intrusive, minimally annoying and as a source of information based on which he/she will make intelligent purchasing decisions. At no time does ZeBar™ take priority over any other activity a user may want to perform. A user is, for example, allowed to position the bar along any edge (left, right, top or bottom), anchor at one place, or hide it.

The preferred ZeBar™ embodiment has buttons that are 30X60 pixels for the side and 24X60 for the top and the bottom position. Each button has a graphic interchange file (GIF) graphic imposed on it. This GIF is preferably always uniform in size shape and colors. There are preferably no more than 16 buttons on the ZeBar™. Out of these 16 buttons, 4 buttons are reserved and cannot be used for any particular advertiser. (see details on Reserved Buttons). The ZeBar™ has an indication for a user, that by clicking here he/she can manage his account. The ZeBar™ always has the user name on it, to ensure that the right user account is credited for the user activity. Any user has the opportunity to change the user login, by clicking on a button or some type of link. An Internet cookie or similar means is employed to automatically identify the user of the client system to the server. Clicking on any button starts a process that depends on the button clicked: If a user clicks on an Ad button, the process initiated comprises the following: checking the connection, or a lack thereof, and the connection speed, and spawn another process described earlier (the CD Rom Process), if the connection speed is insufficient; start the preferred media player; and display an advertisement in the ZeView™. If the user clicks on any of the reserved buttons, they spawn independent processes.

The ZeView™ window is the part of the screen where the ad is displayed and user interaction with the ad is processed. This space shall be no more than 468X468 pixels and is divided into two sections: The AdView Section, which is the space that will be used to provide

all the commercials. This space is not be more than 468X468 pixels. A customized version of QuickTime™ plays the steaming media or the media read from a local device depending upon the connection, its speed or lack of any connection. This customized version is a slightly modified version which, for example, does not ask user any questions regarding updates to QuickTime player and does not encourage user to buy new versions of QuickTime or to visit any sites related to QuickTime.

The User Interaction Section is used to provide buttons (30X60 in size) for the user to indicate his preferences: The button on the right is the button that a user will need to indicate that he completed an ad viewing transaction. This button has "OK" imprinted on it. The button has a permanent position on the User Interaction section. This button remains inactive while the ad is playing. At some instance before an ad finishes, this button becomes active for an amount of time that is, for example, randomly determined. This amount of time is no less than 5 seconds but no more than 8 seconds.

The button on the center has the inscription "Instant Win". This button spawns an "Instant Win Process", that hyperlinks to a referenced Internet web site, and will be activated only in the following situations: If the user is connected to the Internet, and If the user is over 18 years old and If the user resides in a state where such games are permitted by law. The "Instant Win Game" button is instantly deactivated if the user presses the OK button. This button becomes activated for exactly the same amount of time as the OK button, described above. The user has an "either or" choice between pressing the OK button and INSTANT WIN button. Should the user press the INSTANT WIN, he forfeits any credit that he would have earned for watching the ad. In essence, the user is buying a chance to play the INSTANT WIN game by paying in credits. Once the user presses the INSTANT WIN button, a process residing in a referenced Internet web site, which randomly decides on a prize. This prize has a value range from 0 points to a point equivalent of \$100. The expected (average) value of any prize is exactly equal to the credit a user would have earned had he pressed the OK button, according to the formula:  $(p(WIN) * \text{DollarAmountof WIN} = \text{Credit})$ . The process, at completion, opens a window, announcing the outcome of process. Should the user win a prize, the window gives directions on how to claim that prize. A user may be limited to no more than 5 Instant Win chances per day, or some other number or limit. The button will not thereafter be deactivated, but rather will function as an OKAY button after it has been temporarily exhausted.

The third button has the inscription "More Info". This button, when pressed, initiates processes as follows: If the commercial/ad is about a service or a durable product, the process initiates a daughter window stating that by pressing another button in the daughter window, the

user is agreeing to send his name/address/contact info to the advertiser of the product/service. If the commercial is about a low value product (food, household chemicals, and other "supplies"), the process initiates a window offering the user to print a "cents or dollars off" coupons and provide useful tips on the product. Should the user choose to print the coupon, he or she may  
5 again press another button in the daughter windows agreeing to the terms of use. All these activities are be recorded and transmitted to the central server at an appropriate time. Should the user be connected to the Internet or a connection made, the information may be transmitted instantaneously. Should the user be off line, the information is stored in a format that is tamper resistant, e.g., using encryption techniques. This information is then transmitted to the central  
10 server at an appropriate time. Advertisers may be offered an option to customize the page that will be called by the More Info button. Advertisers will be able to customize this pages based on the inventory of parameters offered.

The ZeBar™ has four reserved 30X60 buttons. The first button is called "Hit Me!" with a logo in the background. This button, when pressed, plays a totally random ad in the ZeView™  
15 window. This button has the top most positioning on the ZeBar™ among the reserved buttons, but is always be positioned lower than the ad icons. The purpose of this button is two fold: To make all users become familiar with the system proprietor's logo embedded in a button. A logoed button will be the way the system proprietor will make its mark an all the content sites, free or otherwise, we will use the ZeBar™ to popularize the system proprietor's logo. The  
20 second purpose is to ensure that user curiosity and interest remains high. While it is expected that the sweepstakes and the Instant Win games will keep the interest high, the randomness of the process is used (as is done on TV) to maintain a high level of curiosity for the users. This is achieved by having this button play a totally random ad. This ad may or may not match a user profile. The "Hit Me!" button opens a dialog box that has two options: Play a random ad; and  
25 Play a random ad periodically, for example every 4-60 minutes, as defined by the user. Should the user input a number within the given parameters, the client software corrects the error and stores the information appropriately. This process should open a box with a timer on it and have a countdown of 10 seconds (i.e., a commercial will start in 10,9,8... seconds). The box allows users to stop (cancel) this process and close the window. If the user does not close the process,  
30 the AdView process begins at the end of the countdown process. When the Hit Me button is pressed, it will show a clip based on one of the icons that are present on the screen. Since the information is already present in a user computer, there will only be limited number of calls made to the server.

The second button has the inscription "Instant Win" on it. By pressing this button, the



user experience will be the best among those experienced by pressing any other button. This button is positioned below the last Ad button. This, button, wherever permitted by law, when pressed once, plays a totally random ad in the ZeView™; deactivates any Instant win button on the ZeView™ area; at the end of the ad, activates the OK button on the User Interaction Section; should the user press the OK button without timing out, initiate an "Instant Win Process" on the proprietor's internet web site; once the Instant Win Process is complete, displays the results in a daughter window; does not give any credit to the user for watching an ad; and closes the ZeView™ window once the transaction finishes (either the user presses the OK button or the OK button times out).

The third button has "NOW!" inscribed on it. Pressing this button will allow user to look at daily specials for lunch in his area; any sales that may be going on in geographically proximate regions, as determined by zip codes; allow any coupons that may be available to print and to redeem; and presents information on new releases/musicals etc. Pressing this button will dynamically generate a page that will have all this information custom tailored for a user profile.

The ZeBar™ also has a button with a piggy bank GIF on it. Clicking on this will simply show how many points a user has in his account. The user uses this button to interact with the central server site. Pressing this button takes the user to that section of the site where he can: login; change his profile/address and other information; check his point bank; buy points; redeem points; and ask for more info.

In addition to targeting the user based on a user profile, the present invention may also present advertisements (static or multimedia) based on geographic location and/or time. For example, local restaurant lunch specials, time sensitive coupons, and the like, may be presented in this manner. Thus, for example, a user registration process defines a zip code, which allows the user location to be specified. Therefore, local advertising content may be inserted or presented. This is presented to the user, for example, through a "Surprise" button, which provides an opportunity for geographically and chronologically targeted advertisements, which may also be targeted to the user. For example, lunch discounts at a local restaurant are displayed midday, while in the evening, other offers are made. This potentially allows an advertiser to, on short notice, and for a short duration, promote specials based on an actual load condition

The "MORE INFO" button, described above, may be employed, to perform advertiser-specified actions, for example to present a questionnaire, survey, application form, etc., or to complete the business transaction (purchase movie ticket, make a dinner reservation, or purchase merchandise viewed in the ad). A user is preferably incentivized by further "credits" or discounts, for complying with information requests or

otherwise accepting additional advertising content. The "More Info" button sends a message to the server, which will generate required information in HTML, which will open up a browser on the client system for viewing and interaction. The text on the button may be changed dynamically depending on the requirement of the advertiser.

- 5 Multiple users with access to the same computer may select and maintain different profiles. Generally, the accounting is consolidated, although different accounts may be maintained for different users. Each user may have a separate login, with optionally stored password.

According to one embodiment of the invention, if a multimedia advertisement is not to be integrated with another multimedia content presentation, a plurality of choices may be provided for interaction after a linear commercial is presented. First, a simple acknowledgement, indicated by "OK", allows the user to directly return to normal activities. Second, the user may request more information ("MORE INFO") regarding the sponsor of the message, for example by opening an Internet web page for the sponsor. Third, an alternative  
15 interactive option, such as "INSTANT WIN" is provided to allow the user to continue an interaction with the system, while digressing from the immediate past commercial sponsor. In this case, a contest or sweepstakes may be provided, to hold the user's attention, while he is presented with other advertising information or the like. Such advertisements may be automatically or manually triggered. In an automatic triggered embodiment, a timer or latency-  
20 based system is provided to periodically present a commercial. For example, if a user is logged on for one hour per day, and four commercials watched per day are required for complete subsidy of broadband access, then commercials might automatically be presented every fifteen minutes. Likewise, a user profile may define the occurrence parameters for the commercials. Alternately or additionally, commercials may be triggered manually. For example, if the user  
25 wants to take a break from other activities, he might trigger an ad, which defines, for example, a one-minute rest period. This trigger can be, for example, in the form of a "HIT ME" button. The commercial or ad presented may be randomly selected, or defined based on a user profile, user preference, or sponsor targeting or broadcast requirements.

## 30 EXAMPLE 2

According to a second embodiment of the invention, a streaming media system is provided which allows multiple streams to be processed concurrently, with coordinated management. Key processes of the system are represented schematically in Fig. 6.

As a part of a cooperative scheme, a web publisher integrates a set of HTML/Java

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script/Java code (hereinafter called the "Z-Scripts") into every page on its web site where a commercial message has to be inserted. This code serves several purposes. It defines the size of the commercial window; the location on a web page of the commercial window; the type of the commercial message (pop-up/embedded); the site and section from which the call for  
5 commercial is made to the central server; the behavior of the frame (where the commercial is played); the location of the central server; and the beginning and the ending media type, identification and location of such media. This script thus communicates with central servers, and manages the work flow process, providing information on user capabilities and making appropriate requests for the right commercial message based on profiling and user machine  
10 capabilities.

As a user arrives at a cooperative web page, the web site makes a request for a commercial message. The central servers look for a cookie or other stored information that was collected previously. If no cookie is found, the central servers initiate a server-based process. This process checks: The user connection speed (56k or broadband); the user browser type  
15 (Internet explorer or Netscape); and availability of a media player on a user's machine. (Windows Media Player, Real player and or QuickTime player). If the cookie is not present, the servers leave a cookie on the user machine. Depending on the connection speed and player type, the servers initiate the following process: If the connection speed is over 128kbps and a media player is present, the servers stream the advertisement directly from the server; if the connection  
20 speed is over 128kbps and a media player is not present, a Java Applet is downloaded. This applet allows an advertisement to be played on a website even in the absence of a player; if the connection speed is less than 128 kbps and a media player is present, the user is requested to download a proprietary plug in (hereinafter called "Z-Utility"). If the user agrees to download Z-Utility, the utility is downloaded and installed automatically. If the user does not agree to  
25 download Z-utility, the user is shown an animated gif.

After the advertisement is delivered, the Z-Scripts on the web page allow the system to record an impression for billing and auditing purposes. It also covers the black space on the web page where the advertisement was placed, thus creating another advertising impression, and allows the system to record the site/section and other relevant information for profiling and  
30 targeting purposes. Should a user act on the interactive buttons, the middleware tracks the location of the button on the player and all information entered into any request forms. For example, shipping information entered in the HTML window in response to a special value button for "Free Sample" is returned to the server by the notification Servlet for onward transmission to the fulfillment house.

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The Z-Utility is a piece of software that is designed for users with narrowband connections (56k or less). It allows these users to watch good quality (Similar to a Broadband experience) video/audio advertisements. The Z-utility works as follows. When a narrowband user comes to a cooperative site, the user is prompted to download the Z-Utility. (Each user only  
5 has to download the Z-Utility once, when they first encounter a cooperative web page). The Z-Utility is installed on the user's machine and is executed every time a user connects to the Internet. The utility is in constant communication with assigned central servers. This assignment can be dynamically changed should it be required. The utility is sent a 'hint' every time a user goes to a cooperative web site. The utility immediately calls the assigned central  
10 server, and makes a request for an advertisement, based on the following information: The site id (a unique number used to identify a specific Web publisher.); The section id (a unique number used to identify a specific Web publisher's webpage.); the advertisement name; the type of presentation (pop-up or embedded); the format type (.asf, .rm, or .mov); and how many times a particular advertisement can be shown to a user. The Z-Utility then starts downloading the  
15 advertisement while keeping a record on how many times an advertisement can be shown and has been shown. When the user comes back to the same site, if the advertisement is already cached in their machine, it is played immediately. At the end of the advertisement, the notification is sent to the server and the counter is incremented by 1 in the Z-utility database. The count is also incremented in the local machine. As soon as the counter reaches the  
20 maximum impressions for a particular advertisement for a particular user, the advertisement is deleted from the user's hard drive and additional advertisements are requested. If the advertisement is not presented, the information is returned to the central server, an animated gif is delivered. Further ads are then downloaded until all appropriate ads are cached on the user's machine.

25 The data capture process for embedded and pop-up ads proceeds as follows. When an advertisement is served to a user's machine, a notification is sent to the central server which records: Advertisement (campaign id; a campaign is set of media served to individual user that includes: properly formatted media file (.mov, .rm, .asp, .fla), button ad .gif, Z-Player, wallpaper .gifs, Special Value button .gifs and Special Value button redirects, if necessary); web site on  
30 which it was seen; section on the web site on which it was seen; user's IP address; date/time; any special value button clicks; whether the user has a narrowband connection; and whether the utility has been downloaded.

Advertisements can be inserted at the beginning and/or at the end of a video clip; at a relative time (based on a time relative of the played program), e.g., at 1 minute after the

beginning of the program); back to back in a block of advertisements; and at an absolute time, e.g., advertisements which are played at a absolute time, for example, at 3:30PM.

The Ad insertion on-demand process occurs when a user wants to view archived video content on a web publisher's web site. The process starts when a user clicks on the archived video content (Assume the user already downloaded the ad insertion utility). At this point, the utility sends the user's info (Cookie info) in order for the system to identify the user. The central database places the user in a channel in order to serve them additional advertisements during the process of the video stream. The central database servers also receive the Site ID, section ID and the location of the archived content. Based on the User and Site information, the central servers serve the appropriate ad to the user. At the same time, the utility calls the appropriate content from the web publisher's server farm in order to start the buffering process while the user is watching the advertisement. As soon as the ad is complete the content is played. If it is desired by the web publisher to include advertisements during the playing of an archived stream, the central server serves the user ads at the relative times the publisher has set, based on the selected channel.

The system may insert ads before, during, or after video content with no buffering delay between the ad and video. The video itself is therefore in a paused state, while the ad or insertion is presented. The communication stream including the video may continue, and therefore the buffering and pausing allow an alteration in the delay between download and presentation. Known so-called trick play techniques may also be applied to the buffered data.

According to a preferred method, each web publisher continues to manage and host its own content, without having to send each updated piece to a 3rd party to re-cut, re-digitize and reprocess. The central server hosts the ads from its servers and intelligently inserts them (or controls insertion) into the video stream. The ad insertion platform also provides buffer time for loading of the featured content, which allows narrowband users to have a higher quality viewing experience of the feature video content as well.

The ad insertion process is executed at the user's computer. If the user has not downloaded the Ad Insertion Control, The user is prompted to Download the Ad Insertion Control (Active X control). The architecture of this application is shown schematically in Fig. 9. The functionality of the Ad Insertion Control is distributed in two components: A player engine, which is an intelligent process that operates on the player, and a "dumb" player. The player engine provides an interface to the player and Servlets residing on the Central Server. It is responsible to get the commercials information from Central Server and intelligently parses it and then according to the commercial parameters, instructs the player to intelligently play the

commercials. The "dumb" player is a component that provides the basic player functionality. This component of Ad Insertion Control actually plays the commercials and other video contents on instructions provided by the Player Engine

The user chooses to download the Ad Insertion Control by clicking "YES" on the  
5 download prompt. A Servlet call (A piece of software that is located on Central server that communicates with a client's machine, i.e., to deliver properly formatted ad), is made that sends the following to the Central servers: site\_id, section\_id, channel\_id (Unique number used to determine section level or user profile level targeting), presence of interactive layer flag; realtime streaming flag (RTP/RTSP/UDP/HTTP), program URL, program frame URL, media  
10 format type (RT/WMP/QT), and video content URLs for different connection speeds (up to 6). The Servlet generates a HTML (or other) page according to the above specifications and then serves the appropriate combination. The ad Insertion System is installed on the user's local storage drive. The System consists of the following: the Ad Insertion Control; the Caching utility; and a Media player and connection speed detection functionality (Checks for media  
15 player and type). The Servlet returns a Commercial Insertion Profile String to the Ad Insertion Control that consists of: commercial URLs, commercial frame, ad insertion parameters (timing), special value identifiers, and special value action URLs. The Ad Insertion Control receives, reads, and parses the commercial insertion profile string.

The Control organizes the commercials in three buckets, each of which represents the  
20 following: Bucket 1: Commercials Played Prior to Video Content Delivery; Bucket 2: Commercials Played During the Video Content Delivery; Bucket 3: Commercials Played After the Video Content Delivery. For each bucket, the Ad Insertion Control takes out one commercial URL and the corresponding commercial frame URL from a particular bucket. The Commercial frame is displayed in the video content window until the commercial starts playing.  
25 The Ad Insertion Control then checks to see if the commercial is available on user's hard drive. If the commercial is available on the user's hard drive, Ad Insertion Control begins playing commercial from the user's hard drive. If the commercial is not found on the user's hard drive, then the commercial is streamed directly from the central servers after buffering enough data. The Control hides the commercial frame before starting to play the commercial.  
30 The Ad Insertion Control sends a notification to the Web publisher's HTML page that the commercial has started and instructs it to refresh the special values buttons and wallpaper (if needed). If the requested commercial was not available on the user's hard drive, a hint is dropped on the user's hard drive informing the Caching Utility to start downloading the commercial that is currently being streamed and all other commercials in the respective ad

category. The Caching utility starts the caching process, thus politely caching the commercial on the user's local storage drive for later use. The Ad Insertion Control calls a Servlet to notify that a commercial has been served.

For bucket 1 (commercial played prior to media stream presentation), after the Ad  
5 Insertion Control checks for, and determines that the commercial is not available on the user's local storage drive, it begins to buffer the commercial. During the buffering period, the Control displays the commercial frame. Thus, the user must wait for the first commercial to be served. If there are multiple commercials in the bucket and while the Control is playing the commercial, it starts the buffering process (in the background) at t-10 seconds in order to prepare the next  
10 commercial in the bucket to play. For bucket 2 (commercial played interspersed with media presentation), while the Control is playing the requested video content, the Control starts the buffering process (in the background) at t-10 seconds in order to prepare the commercial to play. For bucket 3 (commercial played after stream presentation), when the Ad Insertion Control intelligently detects that the video content (being played) is ending in next ten seconds, it starts  
15 buffering the first commercial from this bucket in order to provide the seamless transition from video content to commercial.

The user may decline to download the Ad Insertion System by clicking "No" on the download prompt. If the system loses control of the user's session, it informs the Web Publisher that this has occurred.

20 The following Tables A, B and C detail the operational parameters of the three common presentations of the Control Application: A. Embedded in a web page; B. Pop Up on the user's screen, and C. Ad Insertion within a media stream. The Pop-up application is also shown in Figs. 11 and 12, showing, respectively, the pop-up application with and without wallpaper, and the ad-insertion player is shown in Figs. 13 and 14, showing, respectively, the pop-up  
25 application with and without wallpaper. When embedded in a web page, the control application according to the present invention provides only a video window, with user interface elements defined by the host web page.

Table D shows a process diagram for the establishment of an advertising campaign using the system and method according to the present invention. Table E shows a process diagram for  
30 the serving of a statically defined ad to a viewer using the system and method according to the present invention. Table F shows a process diagram for the serving of an interactive ad to a viewer using the system and method according to the present invention. Table G shows a process diagram for interacting with a user who has selected a "Special Value" interactive ad using the system and method according to the present invention.

Table A. Embedded in Web Page

Item	Description
Size (h x w)	Recommended: 228x210 (Total Player), 140x184 (Video Window) Minimum: 220x156 (Total Player), 116x128 (Video Window)
Recommended ad placement	In the top right position on the page (the right column if the page layout is based on three column design)
Video stream format compatibility	<ul style="list-style-type: none"> <li>• Windows media player 6.4 and above</li> <li>• Real Player G2, 7 and above</li> <li>• QuickTime 3 and above</li> <li>• Flash 4 and above</li> </ul>
Browser Compatibility	<ul style="list-style-type: none"> <li>• Internet Explorer 4.0 and higher</li> <li>• Netscape 4.0 and higher</li> </ul>
Interactive buttons	<ul style="list-style-type: none"> <li>• Min 1 button/ Max 3 buttons</li> <li>• Total number of characters for interactive buttons are as follows: <ul style="list-style-type: none"> <li>- For Recommended size, 24 characters total (approx. 8 characters/button)</li> <li>- For minimum size, 15 characters total (approx. 5 characters/button)</li> </ul> </li> <li>• Information behind buttons can be hyperlinks or custom creative.</li> </ul>
Player Controls	None
Commercial Delivery:	<ul style="list-style-type: none"> <li>• Narrowband users who accept to download the Z-Utility and all broadband users will experience the following commercial experience with interactive buttons: <ul style="list-style-type: none"> <li>- Commercial may be proceeded by non-streaming media (animated gif/gif)</li> <li>- Commercial streamed from server(s) if the connection is broadband. Else, the commercial is played from the user machine if the commercial is present on the hard drive. If the commercial is not present on the hard drive, animated gif is delivered.</li> <li>- Commercial is followed by non-streaming media (animated gif/gif)</li> </ul> </li> <li>• Narrowband users who decline to download plug-in will see animated gif with interactive buttons only.</li> </ul>
Download Utility	<ul style="list-style-type: none"> <li>• The download of the Z-Utility is only prompted for narrowband users. The Z-Utility allows the system to politely and intelligently cache audio/video ads on a user's hard drive, so that the ad can be immediately recalled once a user arrives at a cooperative Web page.</li> <li>• The Z-Utility only needs to be downloaded once for both pop-up and embedded ads and works across all cooperative sites.</li> <li>• Size of the Z-Utility is 115 kbs.</li> <li>• Once the Z-Utility is installed, it is executed every time a user connects to the Internet. The utility downloads and caches commercial.</li> </ul>
Impression Counting Process	<ul style="list-style-type: none"> <li>• Impression counted as 1 video ad once a commercial begins to stream (first frame received by the I-frame)</li> <li>• Impression counted as 1 gif ad if the commercial cannot be streamed for any reason and animated gifs is played.</li> <li>• Impression counted as 1 Flash Ad once a Flash commercial starts playing</li> </ul>
Codecs used	<ul style="list-style-type: none"> <li>• Windows media player (video: MPEG4V3, audio: Clep.net)</li> <li>• QuickTime Player (video: Sorenson 2.1, audio: IMA4)</li> <li>• Real Player (video: Real, audio: Real)</li> </ul>
FPS	10-15 FPS
Size of ad unit	15kb/second (225Kbto 450Kb)
HTML placement	Just below the header. Will not affect page load as the code is I-frame based
Sample of HTML code	<IFRAME id="Zframe" name="Zframe" SCROLLING=no FRAMEBORDER=0 WIDTH=212 HEIGHT="228"



	<pre>SRC="http://ad1.zebus.com/bbs/CHECK_SPD?site_id=1&amp;category_id=1&amp;render_type=e&amp;run_time=28&amp;reload_gif=1"&gt; &lt;ilayer id=Zframei width=100 height=300 visibility=hide&gt;&lt;/ilayer&gt; &lt;/IFRAME&gt;  &lt;LAYER id=Zframe width="100" height="300" visibility="hide" clip="0,0" src="http://ad1.zebus.com/bbs/CHECK_SPD?site_id=1&amp;category_id=1&amp;render_type=e&amp;run_time=28&amp;reload_gif=1&amp;browser=N" onload="moveToAbsolute(Zframei.pageX, Zframei.pageY);visibility ='show';clip.width='300';clip.height='300'" z-index="0" right="0" left="0"&gt; &lt;/LAYER&gt; &lt;script&gt; if (document.layers) { var features1 = 'width=1,left=1,top=1,height=1,directories=no,location=no,menubar=no,scroll bars=no,status=no,toolbar=no,resizable=no';     check_win = window.open("http://ad1.zebus.com/bbs/SET_COOKIES" , 'check', features1); self.focus(); if(!check_win.opener) check_win.opener= self; } &lt;/script&gt;</pre>
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Table B. Pop-Up

Item	Description
Recommended Size	<b>Total Player      Video Window</b> 500(w) x 350(h) 210(w) x 165(h) <u>or</u> 320(w) x 240(h) (if Wallpaper is desired).
Recommended placement	In the top left position on the page
Video stream format compatibility	<ul style="list-style-type: none"> <li>• Windows media player 6.4 and above</li> <li>• Real Player G2, 7 and above</li> <li>• QuickTime 3 and above</li> <li>• Flash 4 and above</li> </ul>
Browser Compatibility	<ul style="list-style-type: none"> <li>• Internet Explorer 4.0 and higher</li> <li>• Netscape 4.0 and higher</li> </ul>
Interactive buttons	<ul style="list-style-type: none"> <li>• Maximum of 6 buttons</li> <li>• Maximum number of characters for each interactive button is 30 characters (2 rows of 15 characters).</li> <li>• Information behind buttons can be hyperlinks or custom creative.</li> </ul>
Player controls	Close button in upper right corner of window (on the Windows caption bar)
Commercial Delivery:	<ul style="list-style-type: none"> <li>• Narrowband users who accept to download plug-in and broadband users will experience the following commercial experience with interactive buttons: <ul style="list-style-type: none"> <li>- Commercial streamed from server(s) if the connection is deemed to be broadband. Else, the commercial is played from the user machine if the commercial is present on the hard drive. If the commercial is neither presented on the hard drive, animated gif is delivered.</li> </ul> </li> <li>• Narrowband users who decline to download plug-in will see animated gif with interactive buttons only.</li> </ul>
Download Utility	Works same as embedded. If user already downloaded for an embedded, they do not need to download it again.
Impression Counting Process	<ul style="list-style-type: none"> <li>• Impression counted as 1 video ad once a commercial begins to stream (first frame received by the I-frame)</li> <li>• Impression counted as 1 gif ad if the commercial cannot be streamed for any reason and animated gifs is played.</li> <li>• Impression counted as 1 Flash Ad once a Flash commercial starts playing</li> </ul>
Codecs used	<ul style="list-style-type: none"> <li>• Windows Media Player (video: MPEG4V3, audio: Clep.net)</li> <li>• QuickTime Player (video: Sorenson 2.1, audio: IMA4)</li> <li>• Real Player (video: Real, audio: Real)</li> </ul>
FPS	10-15 FPS
Size of ad unit	15-30kb/second (225Kbto 900Kb)
HTML Placement	Just below the header. Will not affect page load as the code is I-frame based
Sample of HTML code	<pre> &lt;SCRIPT language=javascript type=text/javascript&gt; function MM_openBrWindow(theURL,winName) { features = 'width=500,height=340,left=10,top=235'   x = window.open(theURL,winName,features);   if (x.opener == null) x.opener = self; } &lt;/SCRIPT&gt; &lt;BODY onload="javascript:MM_openBrWindow('http://ad1.zebus.com/bbs/CHECK_SP D?site_id=6&amp;category_id=1&amp;render_type=p','PlayerWindow')" &gt; </pre>

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Table D

<u>Key Process Point</u>	<u>Data Input</u>	<u>Client Integration</u>
Execution	<ol style="list-style-type: none"> <li>1. Define client as Web publisher or agency</li> <li>2. Assign campaign parameters (site_id, section_id, and channel_id)</li> <li>3. For ad insertion, input ad insertion system source code</li> <li>4. Create campaign and Z-Player</li> <li>5. Gain approval from client on campaign parameters and creative</li> </ol>	<ol style="list-style-type: none"> <li>1. Web publisher inputs 5-10 lines of HTML/Java script source code onto every Web publisher webpage (includes initialization Servlet call to retrieve the campaign information (site_id, section_id, and channel_id)) where a commercial message would be shown</li> </ol>
Technical Result	<ol style="list-style-type: none"> <li>1. Web publisher or agency inputted in to central database</li> <li>2. Campaign in database grouped into one ad category, defined by site_id, section_id, and channel_id</li> </ol>	<ol style="list-style-type: none"> <li>1. Central server can serve a campaign through one (or many) Web publisher's page</li> </ol>
Business Result	<ol style="list-style-type: none"> <li>1. Central server or servers can control and modify campaign parameters from server side</li> </ol>	<ol style="list-style-type: none"> <li>2. Central server tracks and charges client on a CPM and per special value click basis</li> </ol>
Key Criteria for Possible Outcome #1	<ul style="list-style-type: none"> <li>• Central server defines channel_id = 0</li> </ul>	<ul style="list-style-type: none"> <li>• Central server includes Ad Insertion System source code</li> </ul>
Possible Outcome #1	<ul style="list-style-type: none"> <li>• Campaign will be targeted based on section level profile (i.e., a "travel page" on a Web publisher site)</li> </ul>	<ul style="list-style-type: none"> <li>• Campaign will be served within a video stream (ad insertion)</li> </ul>
Possible Outcome #2	<ul style="list-style-type: none"> <li>• Central server defines channel_id &gt; 0</li> </ul>	<ul style="list-style-type: none"> <li>• Central server does not include Ad Insertion System source code</li> </ul>
Possible Outcome #2	<ul style="list-style-type: none"> <li>• Campaign will be targeted based on user level profile (i.e., men 25-50 yrs. old throughout website)</li> </ul>	<ul style="list-style-type: none"> <li>• Campaign will be served via embedded or pop up platform only</li> </ul>
Exception Handling	<ul style="list-style-type: none"> <li>• Central server defines campaign parameters incorrectly, database constraints will not accept input. Additionally, upon campaign parameter input, database will edit check the site_id, section_id, channel_id at relationship level and will log errors (email message).</li> </ul>	<ul style="list-style-type: none"> <li>• Client modifies or incorrectly incorporates source code on webpage, code will raise an exception and a Servlet sends an error to the log file (triggers email). If site_id is able to be read correctly, a pre-defined Web publisher default campaign will be served until issue is rectified. If site_id is not able to be read by the servers, a pre-determined default.gif (needs to be determined) will be served until the issue is rectified.</li> <li>• Client requests modification of source code, client will follow the change process: fill out a change request form, gain approval, test.</li> </ul>

Table E

Key Process Point	Identification of User Campaign	Identification of User Capabilities
Execution	<ol style="list-style-type: none"> <li>1. Central server server receives ad call with site_id, section_id, and channel_id and other attributes</li> <li>2. Central server drops cookie on user machine for 1) reporting, 2) future profiling, 3) ability to send hint to Central server, and 4) any other purposes</li> </ol>	<ol style="list-style-type: none"> <li>1. Central servers send and communicate (multiple back and forth Servlet calls) with user's machine to determine connection speed, media player type, browser type and other key attributes that may be needed to effectively deliver a commercial message</li> </ol>
Technical Result	<ol style="list-style-type: none"> <li>1. Central server knows what campaign to serve</li> </ol>	<ul style="list-style-type: none"> <li>- Central server knows and classifies user speed, player type (and browser type)</li> <li>- If connection speed is =&gt; 128Kbs, user classified as broadband.</li> <li>- If connection speed is &lt; 128Kbs, user classified as narrowband. Narrowband users are prompted to download Caching Utility.</li> <li>- Central server can serve properly formatted ad to user</li> </ul>
Business Result	<ol style="list-style-type: none"> <li>1. Central server can serve consumer a targeted campaign</li> </ol>	<ol style="list-style-type: none"> <li>1. Central server serves optimal media based on user capabilities</li> </ol>
Key Criteria for Possible Outcome #1	<ul style="list-style-type: none"> <li>• User machine and Central server are both online</li> </ul>	<ul style="list-style-type: none"> <li>• User machine and Central server are both online</li> </ul>
Possible Outcome #1	<ul style="list-style-type: none"> <li>• Central server server receives ad call</li> </ul>	<ul style="list-style-type: none"> <li>• Central server communicates with user machine</li> </ul>
Key Criteria for Possible Outcome #2	<ul style="list-style-type: none"> <li>• User machine and Central server disconnect during online session</li> </ul>	<ul style="list-style-type: none"> <li>• User machine and Central server disconnect during online session</li> </ul>
Possible Outcome #27	<ul style="list-style-type: none"> <li>• Central server receives ad call upon user's next visit to webpage</li> </ul>	<ul style="list-style-type: none"> <li>• Central server communicates with user machine from beginning upon next user webpage visit</li> </ul>
Exception Handling	<ul style="list-style-type: none"> <li>- If site_id, section_id or channel_id cannot be read by Central servers, an exception will be raised and a Servlet sends an error to the log file (triggers email). If site_id is able to be read correctly, a pre-defined Web publisher default campaign will be served until issue is rectified. If site_id is not able to be read by the central servers, a pre-determined default .gif (needs to be determined) will be served until the issue is rectified.</li> </ul>	<ul style="list-style-type: none"> <li>- If user and central server connection becomes disabled or disconnected, the central server will time out and will re-send a Servlet in the next online session.</li> <li>- If the central server does not receive a Yes answer (or any answer) to any of its queries during the communication process, it will serve a gif file.</li> </ul>

Table F

Key Process Point		Interactive Platform: Serve Campaign	
Execution		<ol style="list-style-type: none"> <li>1. Server sends properly formatted media campaign to user machine that may include: a streaming commercial (HTTP/UDP/RTSP/RTP), Z-Player, Wallpaper and Special Value button creative/URLs, .gif</li> <li>2. Notify server when commercial, and/or .gif has been shown</li> <li>3. Notify server of user's media player and render type (i.e., what type interactive ad)</li> </ol>	
Technical Result		<ol style="list-style-type: none"> <li>1. Central server can serve a campaign to user</li> </ol>	
Business Result		<ol style="list-style-type: none"> <li>1. Central server can serve and verify campaign delivery to client</li> </ol>	
Key Criteria for Possible Outcome #1		<ul style="list-style-type: none"> <li>• <u>BB</u> (Broadband) connection <u>with</u> MP (Media Player)</li> </ul>	
Possible Outcome #1		<ol style="list-style-type: none"> <li>2. Stream commercial with correct commercial file</li> <li>3. Notify server when ad has completed and show .gif</li> </ol>	
Key Criteria for Possible Outcome #2		<ul style="list-style-type: none"> <li>• <u>BB</u> connection <u>without</u> MP (Java-enabled)</li> </ul>	
Possible Outcome #2		<ol style="list-style-type: none"> <li>2. Stream a movie that can be decoded and delivered by a Java or other technology applet/application</li> <li>3. Notify server when ad has completed and show .gif</li> </ol>	
Key Criteria for Possible Outcome #3		<ul style="list-style-type: none"> <li>• <u>BB</u> connection <u>without</u> MP (no Java)</li> </ul>	
Possible Outcome #3		<ol style="list-style-type: none"> <li>1. Show .gif (or other appropriate media format, i.e., Flash)</li> <li>2. Notify server .gif (or other media) has been shown</li> </ol>	
Key Criteria for Possible Outcome #4		<ul style="list-style-type: none"> <li>• <u>NB</u> (Narrow Band) connection <u>without</u> Caching Utility, <u>with</u> MP</li> </ul>	
Possible Outcome #4		<ol style="list-style-type: none"> <li>1. Central server prompts user to download Caching Utility</li> <li>2. If user accepts Caching Utility download: <ol style="list-style-type: none"> <li>a) Show .gif or other appropriate media;</li> <li>b) Notify server .gif (or other media) has been shown</li> <li>c) Install Caching Utility (IE: Activex; Netscape/Mac: JavaApplet);</li> <li>d) Start caching ads on Caching Utility in proper media format</li> <li>e) Create index in Caching Utility of downloaded ads</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>3. If user declines Caching Utility download: <ol style="list-style-type: none"> <li>a) Show .gif or other appropriate media</li> <li>b) Notify server .gif (or other media) has been shown</li> <li>c) Set cookie flag, do not prompt again in this session (defined as browser open)</li> </ol> </li> </ol>
Key Criteria for Possible Outcome #5		<ul style="list-style-type: none"> <li>• <u>NB</u> connection <u>without</u> Caching Utility, <u>without</u> MP</li> </ul>	
Possible Outcome #5		<ol style="list-style-type: none"> <li>1. Central server prompts user to download Caching Utility</li> <li>2. If user accepts Caching Utility download: <ol style="list-style-type: none"> <li>a) Show .gif or other appropriate media</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>3. If user declines Caching Utility download: <ol style="list-style-type: none"> <li>a) Show .gif or other appropriate media</li> <li>b) Notify server .gif (or other media) has been shown</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>b) Notify server .gif (or other media) has been shown</li> <li>c) Install Caching Utility (IE: Activex; Netscape/Mac: JavaApplet)</li> <li>d) Start caching ads on Caching Utility in WMP default format</li> <li>e) Create index in Caching Utility of downloaded ads</li> </ul>	<ul style="list-style-type: none"> <li>c) shown</li> <li>Set cookie flag, do not prompt again in session (defined browser open)</li> </ul>
Key Criteria for Possible Outcome #6	<ul style="list-style-type: none"> <li>• <u>NB</u> connection with Caching Utility, with MP, with campaign cached</li> </ul>	
Possible Outcome #6	<ul style="list-style-type: none"> <li>1. Central server queries Caching Utility for appropriate ad category campaign</li> <li>2. If appropriate campaign is present:               <ul style="list-style-type: none"> <li>a) Show commercial from a local storage drive</li> <li>b) Notify server that commercial shown upon completion and show .gif</li> </ul> </li> <li>• <u>NB</u> connection with Caching Utility, with MP, without campaign cached</li> </ul>	
Key Criteria for Possible Outcome #7	<ul style="list-style-type: none"> <li>• <u>NB</u> connection with Caching Utility, with MP, without campaign cached</li> </ul>	
Possible Outcome #7	<ul style="list-style-type: none"> <li>1. Central server queries Caching Utility for appropriate ad category campaign</li> <li>2. If appropriate campaign is not present:               <ul style="list-style-type: none"> <li>a) Search Caching Utility for other campaign grouped in same ad category</li> <li>b) If other campaigns present, show commercial from a local storage drive and notify server</li> <li>c) If other campaign not present, show .gif and notify server .gif has been shown</li> <li>d) Caching Utility sends hint to central servers to download appropriate campaign and other ads in same ad category</li> <li>e) Central server begins to cache appropriate campaigns on Caching Utility</li> </ul> </li> <li>• <u>NB</u> connection with Caching Utility, without MP, without campaign cached</li> </ul>	
Key Criteria for Possible Outcome #8	<ul style="list-style-type: none"> <li>• <u>NB</u> connection with Caching Utility, without MP, without campaign cached</li> </ul>	
Possible Outcome #8	<ul style="list-style-type: none"> <li>1. Show .gif or other appropriate media</li> <li>2. Notify server .gif (or other media) has been shown</li> <li>• <u>NB</u> connection with Caching Utility, without MP, with campaign cached</li> </ul>	
Key Criteria for Possible Outcome #9	<ul style="list-style-type: none"> <li>• <u>NB</u> connection with Caching Utility, without MP, with campaign cached</li> </ul>	
Possible Outcome #9	<ul style="list-style-type: none"> <li>1. Show .gif or other appropriate media</li> <li>2. Notify server .gif (or other media) has been shown</li> </ul>	
Exception Handling	<ul style="list-style-type: none"> <li>• If user disconnects with central server during Caching Utility download, user is re-prompted to download upon next visit.</li> <li>• If user disconnects with central server during caching process, any part of the commercial cached is purged, and the next time the user is online, the Caching Utility contacts the Servlet to request the commercials.</li> <li>• If user disconnects with central server during campaign delivery, complete campaign is delivered upon the user's next visit.</li> <li>• If requested commercial in cache has error, central server will time out after 60 seconds and then show a .gif file.</li> <li>• If only part of commercial is cached and user disconnects, the cache does not stay on Caching Utility. The next time user is online, the Caching Utility contacts the Servlet to request the commercials.</li> </ul>	

Table G

Key Process Point	Z-Player Interaction (Special Value)	Data Processing	Database Reporting
Execution	<ol style="list-style-type: none"> <li>1. Action URL, redirects user and collects click through, IP address, time of click, site_id, section_id, redirect URL and other needed/suitable information</li> <li>2. Central server collects user inputted information for HTML pages for: above listed info, mailing info and up to set of 15 attributes (text, list, radio buttons)</li> </ol>	<ol style="list-style-type: none"> <li>1. all user collected information written into flat .txt files (or other suitable format)</li> <li>2. Data collected every hour (incremental info)</li> <li>3. End of day, auto process collects flat .txt files from all web servers and all files put into database for aggregation and insertion into reporting tables</li> </ol>	<ol style="list-style-type: none"> <li>1. Client requests up to 4 online reports with proper security information (password)</li> <li>2. Central database generates reports</li> <li>3. Requested report is uploaded to www.Zebus.com for online viewing</li> <li>4. System stores most updated reports in database archive as .xml flat file</li> </ol>
Technical Result	1. System collects user information	1. System aggregates user information	1. System reports user info. (T+1 report)
Business Result	1. System can collect user metrics for reporting purposes	1. System can aggregate ads served and user metrics for reporting purposes	1. System can provide reporting to clients
Key Criteria for #1	• User clicks on any Special Value button	• Any client campaign is active (dates or impressions)	• System reporting interface is online/running
Possible Outcome #1	1. System database records and classifies user interaction based upon click through data	• System database calls web servers every hour to request transfer of any flat .txt files (or other pre-determined interval)	<ul style="list-style-type: none"> <li>• System database server receives client request for online report</li> <li>• System database server requests and receives correct authentication information (password) and database servers generate and display requested client reports</li> </ul>
Key Criteria for #2	• User does not click on any Special Value button	• No client campaigns are active	• System reporting interface is not online/running
Possible Outcome #2	1. System database records and classifies user visit with no interaction	• System database does not call web servers to request data transfer	<ul style="list-style-type: none"> <li>• When System reporting interface down, database server notifies default server of day, time and length of time</li> <li>• If System report cannot be generated, client receives error notice and database server notified, error log filed.</li> <li>• If master database server disabled, slave database activated as master and email error log is filed.</li> <li>• How reporting handles data errors: Master database collects all data and sorts indefinable formats into error log.</li> </ul>
Exception Handling	<ul style="list-style-type: none"> <li>• If Central server is unable to redirect URL, user receives an error message due to the time out of the browser</li> <li>• If Central server is unable to collect user submitted info, user is re-prompted (if due to improper validation) or shown message that unable to accept and error noted to log file (if not due to improper validation) (email sent)</li> <li>• If server is disabled, load balancer will send to another server.</li> </ul>	<ul style="list-style-type: none"> <li>• If System database server cannot accept data on server disk, information will be recorded on redundant disk (same server – carbon copy)</li> <li>• If redundant disk is also disabled (with main server disk), Central server loses data and error is sent to log file.</li> <li>• If Central server is disabled, load balancer will send to another server.</li> <li>• If system master load balancer is disabled, redundant load balancer activated.</li> </ul>	



**EXAMPLE 3**

Fig. 4 shows a block diagram of a system according to the present invention, wherein the central server passes information through an advertiser server to a user. Thus, according to this model, the viewer apparently interacts with a single entity, the advertiser, and the central server is shielded from direct communication. In this case, the advertising content is preferably not hosted on the central server, since this might result in unnecessary transmissions of the streaming media. This model corresponds to an interactive TV Ad insertion system.

As shown in Fig. 4, a user visits a partner's web page that is enabled with Z-Scripts (A). Z-Scripts are executed, delivering the user's connection speed, media player and browser type, and the partner's site information to the system servers. A matching process is performed between the User Profile (B) and Media (C) databases in order to determine the following: The Advertisement to send to the user, based on the site information and user profile; The type of Advertising Media (Video, .gif, Flash, Banner, etc.), based on the user's capabilities and advertising requirements; The type of advertising format to send, based on the user's media player type (Windows Media, RealPlayer, or Quicktime); and the corresponding special values.

The user is sent the Targeted Advertisement (D) with the corresponding Special Values (E) via the Embedded or Pop-up Z-Player (F). The user then has the option to interact with the Special Value Button (E). If the user clicks on a Special Value Button (E), then an event 6a is triggered and the corresponding Special Value Creative (G) is sent to them. The Special Value Creative (G) may request 6b that the user submit information (Brochure, Sample, etc.). Any submitted information is collected and classified by the central database.

The User Profile Database is where the system stores demographic (when provided) and non-personally identifiable behavior-based information. The Media Database is where the system stores all of the media files (Advertisements (D)), Special Value Buttons (E), and Special Value Creative (G).

The Special Value Buttons are used by advertisers to capture additional user information, provide users with samples or brochures, link users to Web pages, etc. The buttons are hosted in the Media Database (C) and linked with the corresponding Special Value Creative (G) and media file (Targeted Advertisement (D)). The Special Value Creative is simply the Sample or brochure form, linked web page, coupon, etc. that is presented to the user as a result of them clicking on the corresponding Special Value Button (E). The creative can be hosted either by the central server, the advertiser, or a third party.

Fig. 5 is a block diagram of a system according to the present invention, wherein the central server passes information independently of an advertiser server to a user. In this case,

the user's system is aware that the control application is communicating with a different server than that controlling the normal web pages from the web site. This architecture potentially allows the user greater privacy, since the particular web sites have only indirect access to the user profiles and the information on which they are based. This model corresponds to a web page ad insertion model.

According to this model, a user visits a partner's Web page and chooses to view a media file that is enabled with Z-Scripts (A). Z-Scripts are executed A, delivering the user's connection speed, media player type and browser type, and the partner's site and file information to the central servers. The Z-Scripts call the client's Content Database (I) in order to capture the appropriate media file (Client Content (H)). A matching process is performed between the User Profile (B) and Media databases (C) in order to determine the following: The Advertisement to send to the user, based on the site information and user profile; the type of Advertising Media (Video, .gif, Flash, Banner, etc.), based on the user's capabilities and advertising requirements; the type advertising format to send, based on the user's media player type (Windows Media, RealPlayer, or Quicktime); the corresponding special values; and the appropriate client media file to play after the advertisement.

The user is sent the Targeted Advertisement (D) with the corresponding Special Values (E) via the Ad Insertion Z-Player (F). After the advertisement is complete, the user is sent the desired client content (H). The user has the option to interact with the Special Value Buttons (E). If the user clicks on a Special Value Button (E), then an event is triggered and the corresponding Special Value Creative (G) is sent to them. The Special Value Creative (G) may request that the user submit information (Brochure, Sample, etc.). All submitted information is collected and classified by the central database.

The Client Content represents the media file that the user is selecting to view on the client's web site. The Client Content Database is located at the client's hosting facility. This is the database where they store all of their streaming content (H).

Fig. 7 shows a block diagram of an advertisement insertion system according to the prior art. In this scheme, it is particularly noted that presentation of each segment incurs a mandatory prebuffering latency in all of the known digital media players. Therefore, each advertisement or other change in media flow will cause a disruptive interruption. Since the known media player implementations are single tasking, a first stream must end playing, even if it is contained entirely within a local cache, before a subsequent stream can begin setup.

In contrast, Fig. 8 shows a block diagram of an advertisement insertion system according to the present invention. According to the present invention, the control application provides

multithreaded support for simultaneously handling multiple media streams. Thus, when a first media stream is completely downloaded, and thus the communications bandwidth is available, a subsequent media stream may commence prebuffering, even during completion of playback of a prior stream. Likewise, the present invention allows locally cached media, such as commercials, to be interspersed with downloaded streaming media, such that the actual presentation data rate for the media may be in excess of the available communications bandwidth. Thus, when the buffer for the downloaded media is depleted, a locally cached commercial may be presented while the buffer is regained.

Fig. 10 shows a process and example of an economic model for a business exploiting the system and method according to the present invention. As shown in Fig. 10, a business process is provided in which advertisements for Internet web sites may be separated from the content delivery. Therefore, the present invention allows servers to be established for hosting streaming advertisement content, which may be employed without a disruption of a continuous media presentation. The advertising control central server therefore need not host the advertisements in order to provide effective management and control over the process. The advertising control central server also typically deals with or through web sites (publishers) to satisfy their technical requirements, rather than serving advertisers directly. Thus, advertisers will retain their relationships with the publishers. Fig. 10 also shows that the advertising control central server seeks only a small portion of the advertising revenue, preserving the advertisement driven publishing model.

In some cases, a live broadcast or webcast is provided, in which it is desired to provide targeted commercials or customized segments. Thus, while most of the presentation is common for all viewers, other portions are individualized. Therefore, according to one embodiment, when a user seeks to join a webcast, the user is identified, for example, with username and password. The server then assigns the user a channel (i.e., both a physical communication layer and a predefined protocol) for advertisements, which are also broadcast, but which need not be broadcast in real time, especially where the user's communications bandwidth exceeds the amount necessary for the webcast. Therefore, in order to reduce peak load on the server and communications link, commercials may be precommunicated, in whole or in part, to users, and triggered from a local cache at the appropriate time. Before a commercial is about to begin, the sever may transmit a signal indicating the start time. At the designated time, the user system accesses the channel, which may be live or buffered, and presents the commercial. At the end of the commercial, the system then continues to present the webcast stream. Thus, the system according to the present invention may provide a seamless integration of digital video streams

from multiple sources, by coordinating their respective presentation parameters prior to playback, to ensure that each stream is cued for immediate commencement of playback when the prior stream completes.

#### EXAMPLE 4

Figs. 15 and 16 show schematic configurations of a digital rights management (DRM) architecture according to the present invention. The caching utility provides a basis for managing the download and storage of stream buffer files on the user's hard disk. While it is preferably to persistently store Ads in a convenient format, it is also preferred to limit access to content outside the control of the player. This preserves the value of the content for the owner. According to the present invention, as the proprietary content is streamed to the user's computer, the caching utility may exert control over it. For example, even if the media player software or content stream format does not support DRM, this may be implemented by limiting access to and use of the cached data. Thus, by limiting the size of the cache, and expiring and deleting old data, abuse of the temporarily stored data will be limited. Likewise, the caching utility may encrypt (or scramble) data as it enters the cache, and decrypt (or descramble) it as it is recalled by the media player.

As shown in Fig. 15, the player's software (engine) encapsulates the application programming interfaces (APIs) for the media player, providing a generic interface to a virtual player. A middle tier layer provides targeting and profiling interface to the engine, transaction processing capabilities, and reporting. The player software thus provides an opportunity to add functions to the media player software.

Fig. 16 shows that, by restricting the playing of controlled content by the virtual player, DRM rules may be stored and enforced by the central server. To play content subject to DRM rules, there is a two step handshake process. The Zplayer, preferably through a SSL connection, talks to the central server. It sends the player's unique global user identification (GUID) and requests a UserAgent. The central server creates a new UserAgent, and adds an entry in one of the tables for the GUID, IP address, and an expiry date about 30-60 seconds into the future. The ZPlayer makes the actual call for the media, which is a servlet call. The Zebus servlet checks the UserAgent and the time in the table. If the UserAgent matches one in the table and if the time is not greater than the Expiry date, the media is sent, otherwise the request is rejected. The requesting user IP address may also be checked. It is noted that, in some cases, communication with the central server may be conducted periodically, wherein the player operates autonomously in accordance with preset rules between communications.

This prevents a user from trying the URL directly in a media player, because the actual media URL is not directly visible. Even if the user can find the actual URL, if the UserAgent does not match, then the request is rejected. An important part of this is the two-stage handshake protocol and the 30 sec window of validity of the UserAgent. Even if the user can circumvent the UserAgent, the 30 sec expiry of the UserAgent gives the user a very small window to directly open the URL in a media player directly.

The present invention also supports pay-per-view schemes. Since the content is protected for playback except through use of the Zplayer and associated systems, and the Zplayer is controlled through a central server, a content owner may be assured that compensation will be received for use of content. Thus, the content may be streamed to the user, or stored or buffered locally in a protected format and played only when authorized. This authorization may entail an accounting event. The present invention may also be integrated with a traditional entertainment or video system. For example, the system could be used to substitute for commercials broadcast on a television channel. The user, for example, is compensated for viewing the commercial from the system of the present invention, instead of from the existing source. All processing can be handled locally. The present invention may also be integrated with a digital video recording device (DVR), potentially allowing the broadcaster to implement the commercial substitutions. In this case, the broadcaster will be able to increase revenues by providing targeted advertisements, and by providing interactive opportunities, including potentially a full electronic commerce portal. Thus, as another aspect of the invention, digital multimedia streams may be integrated with live or analog multimedia streams.

Aspects of the present invention may also be applied to non-PC Internet devices, such as PDA/wireless devices and TV set-top devices. Therefore, it is understood that the present invention is not limited to commonly understood broadband technologies for delivering commercial quality (or better) video to users through a copper-backbone Internet. Rather, the present invention provides the ability to serve users various types of advertisements, hosted under unrestricted conditions, in a manner suitable for presentation on a user's system. The architecture therefore provides two components: a central server for coordinating and accounting for usage of the user's, content owner's and advertiser's systems, and a client software suite, hosted on the client hardware, for communicating with the central server and presenting the content and advertising to the user.

Many aspects of the present invention employ known techniques, although employed in different contexts herein. Therefore, it is understood that these known and techniques and those

associated with them may be employed in conjunction with the present invention, to the extent consistent therewith.

It is also understood that the various aspects of the invention may be employed together, individually or in subcombination. Further, it is understood that the present techniques are not limited to use on the Internet, as presently known, and may be applied to a large number of human computer interface systems.

While the above detailed description has shown, described and pointed out the fundamental novel features of the invention as applied to various embodiments, it will be understood that various omissions and substitutions and changes in the form and details of the system and method illustrated may be made by those skilled in the art, without departing from the spirit of the invention. Consequently, the full scope of the invention should be ascertained by the appended claims.

## CLAIMS

What is claimed is:

1. A method for delivering a targeted advertisement, comprising the steps of:  
classifying a consumer by assigning to the consumer a behavior classification based on a set of expressly defined set of preferences, an automatically derived set of preferences, and a prior purchasing behavior;  
selecting a targeted advertisement to be delivered to the consumer, based on the classification;  
presenting the targeted advertisement to the consumer; and  
monitoring an action immediately subsequent to the presentation of the targeted advertisement.
2. The method according to claim 1, wherein the monitored action is employed to update the expressly defined set of preferences.
3. The method according to claim 1, wherein the monitored action is employed to update the automatically derived set of preferences.
4. The method according to claim 1, wherein the targeted advertisement is a rich media presentation.
5. The method according to claim 1, wherein a purchasing behavior is monitored to update the automatically derived set of preferences.
6. The method according to claim 1, wherein the targeted advertisement is selected to control a purchasing behavior.
7. The method according to claim 1, wherein the presenting and classifying are performed on a computer system local to the consumer.
8. The method according to claim 1, wherein the classifying is performed on a computer system remote from the consumer.
9. The method according to claim 1, further comprising the step of requiring an input by the consumer immediately subsequent to the presentation of the targeted advertisement to confirm attention thereto.
10. The method according to claim 9, further comprising the steps of receiving a payment from an advertiser for the targeted advertisement; and guarantying a viewing of the targeted advertisement.
11. The method according to claim 1, further comprising the step of receiving compensation from an advertiser for display of advertisements based on a cost per verified impression.

12. The method according to claim 1, wherein an available but unselected potential action is employed to update the automatically derived set of preferences.
13. The method according to claim 1, wherein the consumer is presented with a plurality of options after presentment of the targeted advertisement, and a user selection of a one of the plurality of options is employed to update the automatically derived set of preferences.
14. The method according to claim 1, further comprising the step of incentivizing the consumer to receive the advertisement.
15. The method according to claim 14, wherein said incentivizing comprises implying a monetary value for receipt of the advertisement.
16. The method according to claim 14, wherein said incentivizing comprises providing a discount for goods or services to the consumer.
17. The method according to claim 1, further comprising the step of outputting a message to the consumer after delivery of the advertisement.
18. The method according to claim 1, further comprising the step of printing an output message to the consumer after delivery of the advertisement.
19. The method according to claim 18, wherein the printed output message comprises a coupon having a unique identifier thereon.
20. The method according to claim 1, wherein said monitoring step further comprises requiring the user to input a context-sensitive message.
21. The method according to claim 1, wherein said monitoring step further comprises requiring the user to input a message selectively defined by the targeted advertisement.
22. A method for delivering a multimedia advertisement to a consumer, comprising the steps of:
  - selecting an advertisement to be delivered to the consumer;
  - presenting the advertisement to the consumer; and
  - requiring an input by the consumer immediately subsequent to the presentation of the advertisement to confirm attention thereto.
23. A method for publishing advertisements, comprising the step of receiving compensation by a publisher from an advertiser for display of advertisements based on a cost per verified impression.
24. An content presentation method, comprising the steps of:
  - providing a database containing a plurality of addressable media content;
  - providing an interactive application for displaying a selected media content from the database to a user;



verifying a viewing of the entire content by the user; and  
providing a reward to the user for viewing the content.

25. The method according to claim 24, wherein the content comprises educational material.
26. The method according to claim 24, wherein the content comprises marketing material.
27. The method according to claim 24, wherein the content comprises a commercial.
28. The method according to claim 24, wherein the database is local to the user.
29. The method according to claim 24, wherein the content is remote from the user.
30. The method according to claim 24, wherein the application receives the content from the database through a switched packet network.
31. The method according to claim 30, wherein the switched packet network comprises the Internet.
32. The method according to claim 24, wherein the selection of media content is based on a profile of the user.
33. The method according to claim 24, wherein the selection of media content is based on a classification of the user.
34. The method according to claim 24, wherein the selection of media content is defined remotely from the user.
35. The method according to claim 24, wherein the selection of media content is defined locally to the user.
36. The method according to claim 24, wherein the application has a plurality of media content selections available for display simultaneously.
37. The method according to claim 24, wherein the interactive application requiring a manipulation of an object on a graphic user interface for said verification.
38. The method according to claim 24, wherein the interactive application senses a physical presence of the user in proximity to a display for said verification.
39. The method according to claim 24, wherein the interactive application provides a plurality of interactive opportunities after displaying the media content.
40. The method according to claim 24, wherein the interactive application display selected media content commencing periodically, with gaps therebetween.
41. The method according to claim 24, further comprising the step of accounting to a provider of the media content for verified display thereof to the user.
42. The method according to claim 41, wherein the accounting to the provider

maintains an anonymity of the user.

43. The method according to claim 24, further comprising the steps of providing a central server and a plurality of content providers, communicating between the application and the central server, and communicating between the central server and the plurality of content providers.

44. The method according to claim 43, further comprising the step of accounting for a verified viewing of the media content by a user.

45. The method according to claim 44, wherein the accounting comprises accounting, at the central server, to modify an account of the user and an account of a content provider.

46. The method according to claim 44, wherein the modification of the account of the user and the modification of the account of the content provider are of opposite and different magnitudes, with a difference of value of the absolute values comprising a profit for the central server.

47. The method according to claim 24, wherein the application and the media content database are connected through a communication channel capable of streaming media content in real time, and wherein the media comprises video data.

48. The method according to claim 47, wherein the application and the media content database are connected through a communication channel having a bandwidth in excess of that required to stream a single media content database record in real time, and wherein the media comprises video data.

49. The method according to claim 47, wherein the reward comprises a subsidy of a cost for maintaining the communication channel.

50. The method according to claim 24, further comprising the steps of identifying the user; and selecting media content in dependence on a user identification.

51. The method according to claim 50, wherein the user identification is associated with a user profile, the media content being selected according to an algorithm operating on user profile information.

52. The method according to claim 51, further comprising the step of recording a transactional history of the user, and providing the user profile based on the transactional history.

53. The method according to claim 51, wherein the user profile comprises demographic information.

54. The method according to claim 51, wherein the user profile comprises geographical information.

- 50 -

55. The method according to claim 51, wherein the user profile is adaptively updated based on data obtained subsequent to said selecting.

56. The method according to claim 51, wherein the user profile is maintained locally to the user, and defines filter parameters for locally selecting media content.

57. The method according to claim 51, wherein the media content selection is based on a correlation of a predetermined target profile for the media content and the user profile.

58. The method according to claim 57, wherein the selection is further based on a temporal sequencing algorithm.

59. The method according to claim 24, wherein the selecting is based on a valuation of a verified viewing by the user with respect to an available media content.

60. The method according to claim 24, wherein the database of media content is distributed across a plurality of servers, a selecting being based on a resource locator generated by the user.

61. The method according to claim 24, wherein the selecting is based on an Internet cookie stored locally to the user.

62. The method according to claim 24, wherein the verifying step comprises transmitting an encrypted message from the application.

63. The method according to claim 24, wherein the verifying step comprises transmitting a pair of secure messages from the application, a first message identifying the user and a second anonymous message identifying the selected media content.

64. The method according to claim 24, further comprising the step of soliciting responses from the user, and rewarding the user for providing responses to the solicitations.

65. The method according to claim 24, wherein the reward comprises a discount for a future purchase by the user.

66. The method according to claim 24, wherein the reward comprises a sweepstakes entry.

67. The method according to claim 24, wherein the reward comprises patronage loyalty incentive credits.

68. The method according to claim 24, further comprising the step of statistically accounting to a media content provider for a predicted number of verified viewings.

69. The method according to claim 24, wherein the media content is selected based on an express user request.

70. The method according to claim 24, further comprising the steps of providing, with the application, a set of selection choices for the user; and receiving a selection of a media

content choice from the user.

71. The method according to claim 70, further comprising the step of automatically changing a set of selection choices periodically.

72. The method according to claim 70, further comprising the step of permitting the user to manually change a set of selection choices.

73. The method according to claim 24, further comprising the step of limiting rewards available to a user within a predetermined temporal interval.

74. The method according to claim 24, further comprising the step of limiting rewards available to a user in at least two different predetermined temporal intervals varying in scale.

75. The method according to claim 24, further comprising the steps of maintaining a record of verified viewings, and performing an analysis of the recorded verified viewings.

76. The method according to claim 24, further comprising the step of recording instances of said providing step not followed by said verifying step.

77. The method according to claim 24, wherein said verifying comprises requiring a user input within a predetermined period of time after the end of a media content presentation.

78. The method according to claim 24, further comprising the step of presenting a common media content, wherein the common media content is interspersed with selected media content.

79. The method according to claim 78, wherein the common media content has predetermined insertion points for the selected media content.

80. The method according to claim 78, wherein the common media content is broadcast in real time, and where the application selects from a predetermined set of media content associated with the common media content.

81. The method according to claim 24, wherein said verifying step comprises performing a volitional action by the user which is prompted by the application and which varies on repeated instances of presentation by the application.

82. The method according to claim 24, wherein the verifying comprises a secure encrypted challenge response authentication sequence.

83. The method according to claim 24, wherein the application selects a common media content stream from a plurality of choices, and intersperses selected media content with the common media content.

84. The method according to claim 24, wherein a verification signal is transmitted by the application using a same communication channel as that used for receiving the selected

media content.

85. The method according to claim 24, wherein a verification signal is transmitted by the application using a different communication channel from that used for receiving the selected media content.

86. The method according to claim 24, wherein a said verifying further comprises printing a secure verification certificate.

87. The method according to claim 24, further comprising the step of providing a programmable media content presentation platform having a communications link with the Internet and executing an Internet browser application, wherein the application comprises a browser dependent applet.

88. The method according to claim 24, further comprising the step of providing a programmable media content presentation platform having a digital communications link, wherein the application comprises a software application which executes in an operating system environment.

89. The method according to claim 24, further comprising the step of providing a programmable media content presentation platform having a graphic user interface, wherein the application comprises a persistent desktop object.

90. The method according to claim 24, wherein the selected media content is MPEG-4 compliant.

91. The method according to claim 24, wherein the media content is selected based on associated MPEG-7 compliant metadata.

92. The method according to claim 24, further comprising the steps of providing a common media content, having an associated cost, and interspersing the selected media content with the common media content, wherein the reward is employed to offset the associated cost of the common media content.

93. The method according to claim 24, wherein said verification does not associate an identity of the user with a selection of media content.

94. A method for providing a seamless integration of a plurality of streaming media segments, comprising the steps of:

- (a) commencing presentation of a first segment;
- (b) determining a desired start time for a second segment;
- (c) prebuffering the second segment during playback of the first segment with sufficient time for the second segment to be available prior to completion of the presentation of the first segment; and

(d) commencing presentation of the second segment seamlessly with a termination of presentation of the first segment.

95. A streaming media presentation control application, comprising:

- (a) means for controlling a plurality of instances of media presentation software;
- (b) receiving a message from a first instance of the media presentation software; and
- (c) using the received message to control a second instance of the media

presentation,

wherein only one of said first and second instances performs a media presentation at a time.

96. A system for seamlessly inserting a rich media advertisement into online video content while maintaining coordination and control of presentation, comprising:

- (a) a first host for serving first media content;
- (b) a second host for serving second media content;
- (c) a control server, having a database of control parameters defining temporal aspects of said first media content; and

(d) a control application, receiving said first media content, said second media content, and an appropriate set of control parameters from said control server,

wherein said control server operates to seamlessly present said first and second media content sequentially without requiring a gap therebetween.

97. The system according to claim 96, wherein said first media content is an archival format.

98. The system according to claim 96, wherein said first media content is an real time presentation.

99. The system according to claim 96, wherein said control server performs a financial accounting function for presentation of at least one of said first and second media content.

100. The system according to claim 96, wherein one of said first and second media content is coupled to a financial subsidy for the other.

101. The system according to claim 96, wherein said control application provides a user-interactive control over presentation of at least one of said first and second media content.

102. The system according to claim 96, wherein said appropriate set of control parameters is dynamically generated by said control server.

103. The system according to claim 96, wherein said appropriate set of control parameters is adaptively generated based on past interactions with a user of said control

application.

104. The system according to claim 96, wherein said control application selectively provides a hyperlink.

105. The system according to claim 96, wherein said control application senses a change in communication status with at least one of said first and second hosts.

106. The system according to claim 96, wherein said control application simultaneously controls at least two media players.

107. The system according to claim 105, wherein said control application is adapted to pass messages between said at least two media players.

108. The system according to claim 96, wherein said control application communicates a status of presentation to said control server.

109. The system according to claim 96, wherein at least one of said first and second hosts is local to said control application.

110. The system according to claim 96, wherein said appropriate set of control parameters controls a telecommunications buffer status of at least one of said first and second media content.

111. A content presentation method, comprising the steps of:  
providing a database containing a plurality of addressable media content;  
selecting the advertisement to be delivered based upon defined user and advertisement classification parameters;  
providing an online advertisement served from an advertisement server into a video stream, webpage or pop-up window;  
displaying the selected advertisement to the user, followed by the video content, using an interactive application; and  
collecting and classifying any user data provided.

112. A method for caching a targeted rich media, online advertisement, comprising the steps of:  
providing a user with a caching utility;  
uniquely identifying a user based on the utility;  
classifying a consumer by assigning to the consumer a classification based upon a set of expressly defined preferences or behaviors, an automatically derived set of preferences or preferences, and/or a prior purchasing behavior;  
selecting a targeted advertisement to be cached on the user's local system based on the classification; and

caching the targeted advertisement and expunging advertisement from the local system based on time, frequency or change in consumer classification parameters.

113. A method for managing content rights, comprising the steps of:

(a) receiving, by a user machine, content in a streaming format;

(b) buffering a portion of the content;

(c) presenting content from said buffer, wherein said buffering is controlled by a caching utility independent of a content presentation utility; and

(d) controlling the caching utility to limit receipt or storage of content based on a set of predefined content rights.

114. The method according to claim 113, wherein the caching utility is controlled to limit receipt of content based on the set of predefined content rights.

115. The method according to claim 114, wherein the caching utility is controlled to limit buffering of content based on the set of predefined content rights.

116. The method according to claim 115, wherein the caching utility is adapted to simultaneously interact with a plurality of content presentation utilities.

117. The method according to claim 116, wherein each content presentation utility is capable of managing only one content stream at a time, and wherein the caching utility in combination with a plurality of content presentation utilities is capable of simultaneously managing a plurality of content streams.

118. The method according to claim 113, wherein the content rights comprise at least one economic right for an accounting for the content stream, further comprising the step of accounting for the content stream based on the content rights.

119. The method according to claim 118, wherein a content owner receives consideration for content.

120. The method according to claim 118, wherein a viewer receives consideration for content.

121. The method according to claim 118, wherein a publisher receives consideration for content.

122. The method according to claim 118, wherein said accounting is performed on-line.

123. The method according to claim 122, wherein said accounting requires handshake verification.

124. The method according to claim 118, wherein said accounting is performed in a batch mode.



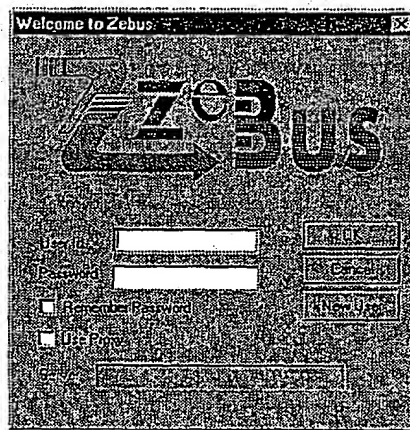


Fig. 1

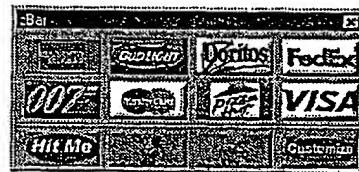


Fig 2

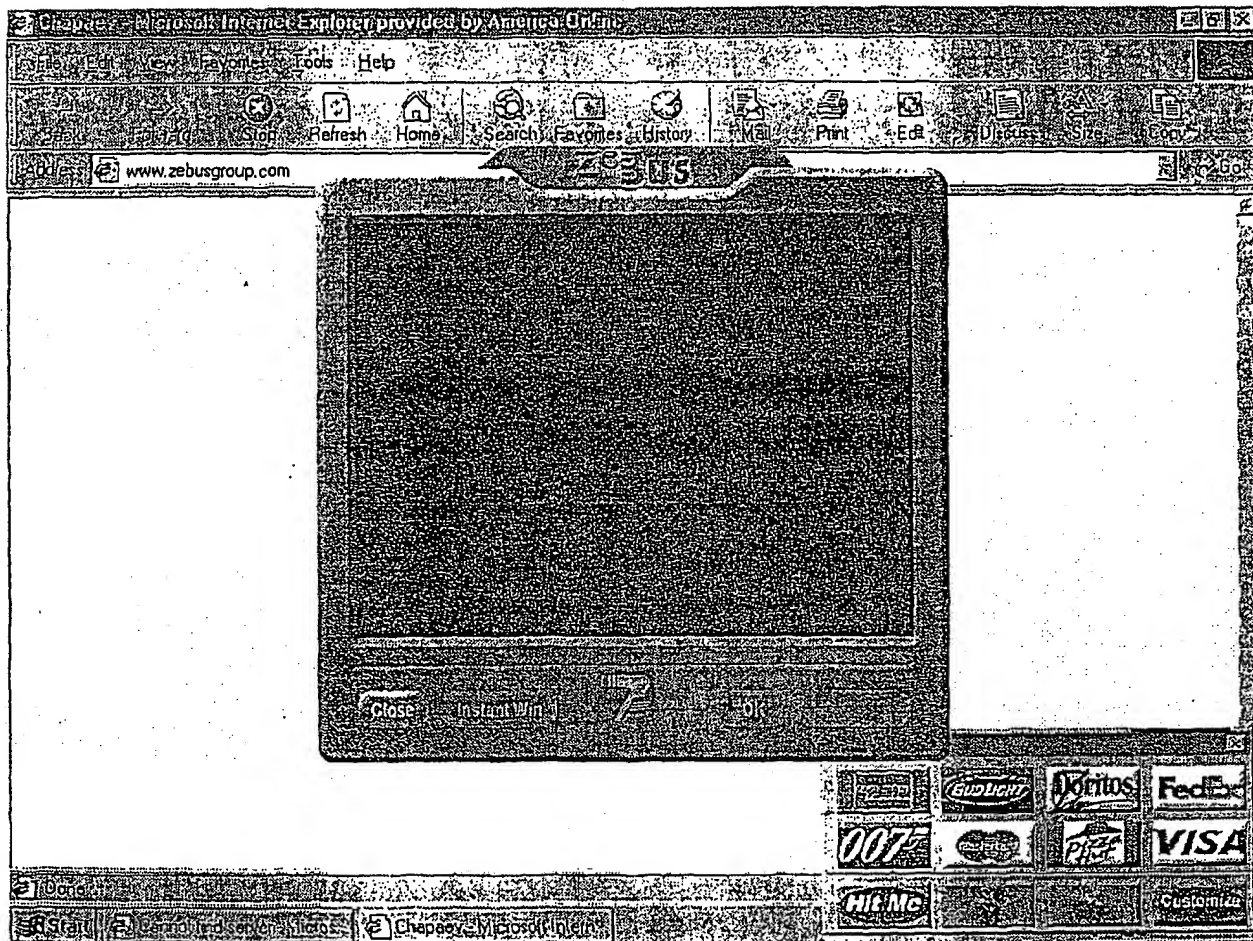


Fig. 3

4 / 13

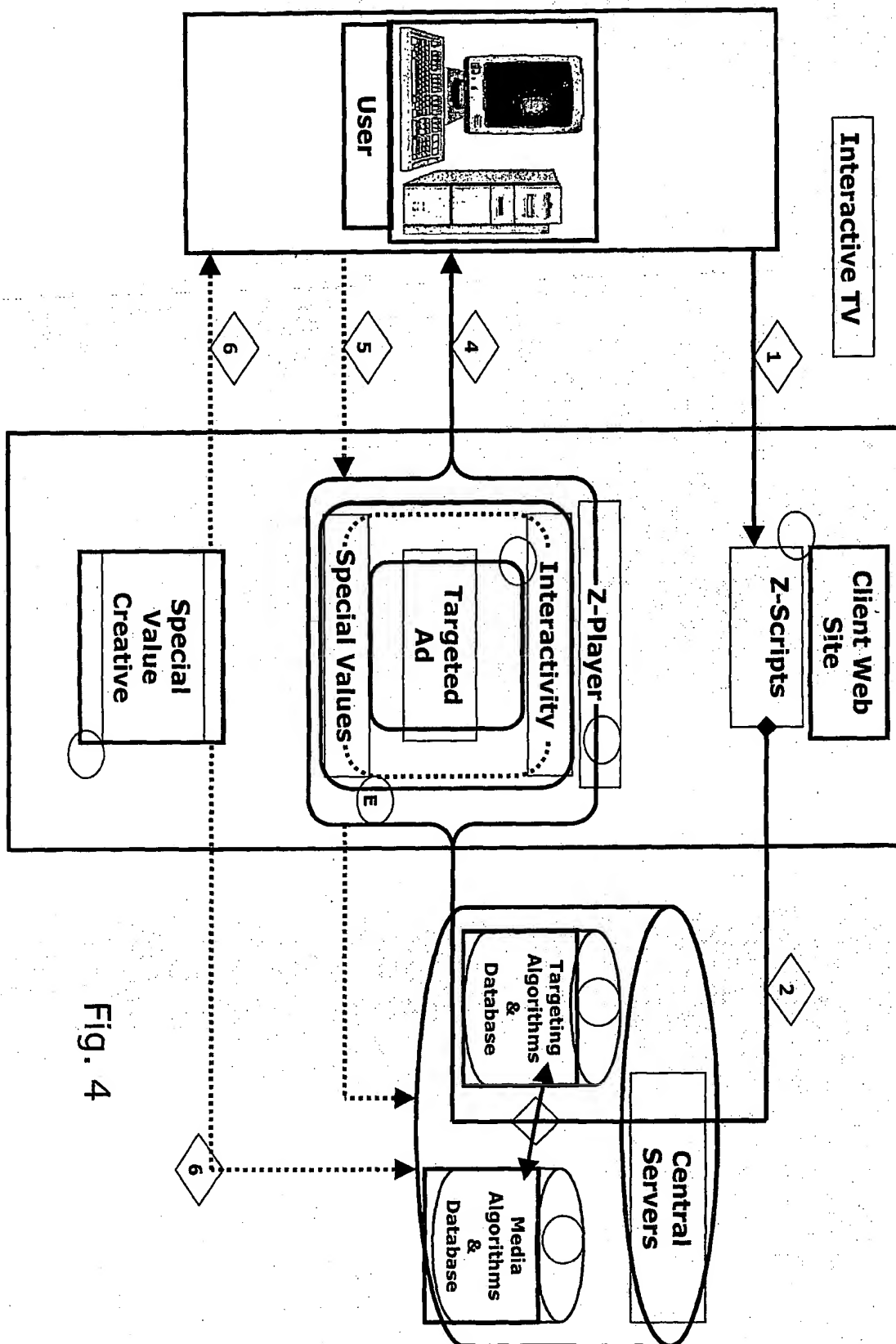


Fig. 4

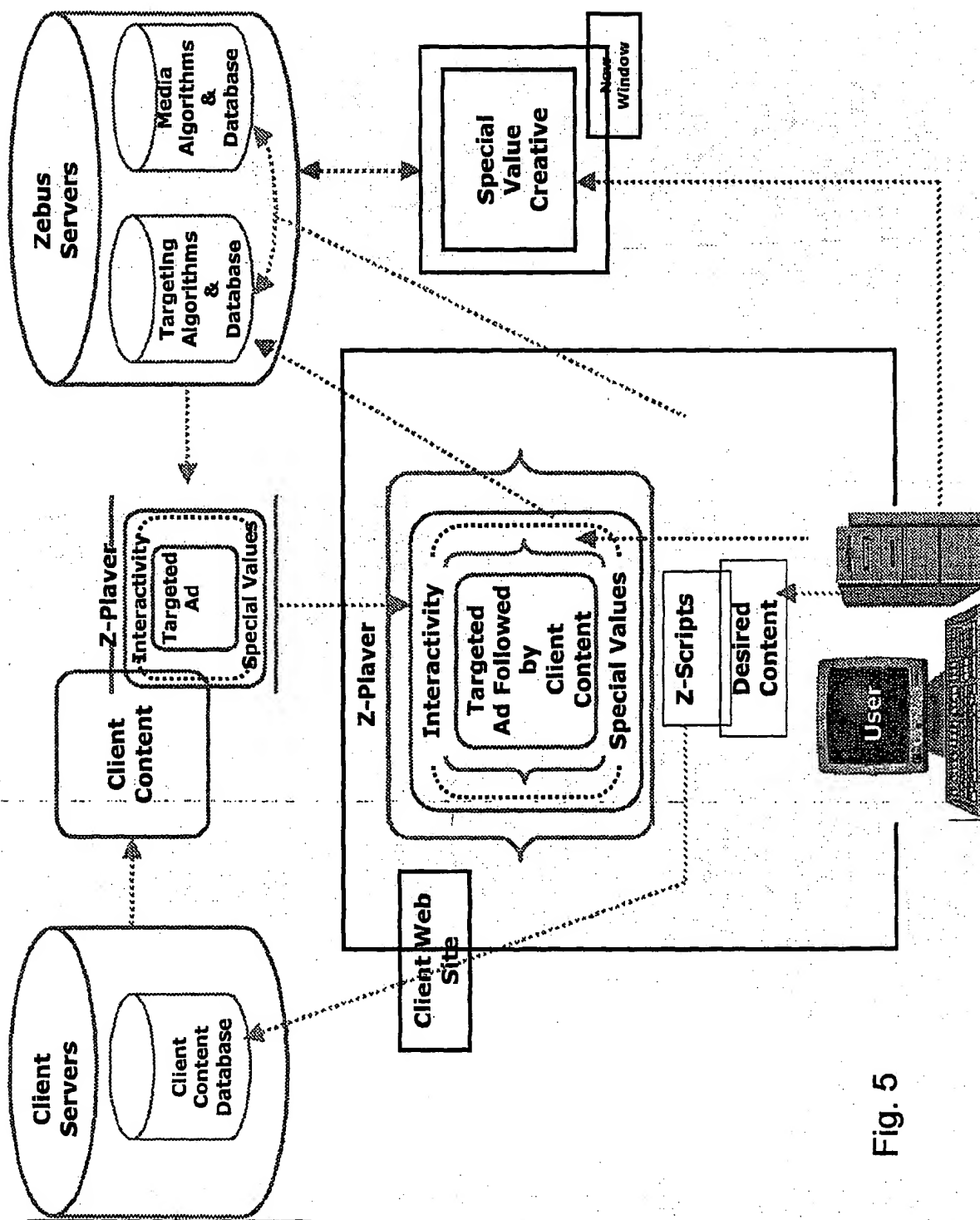


Fig. 5

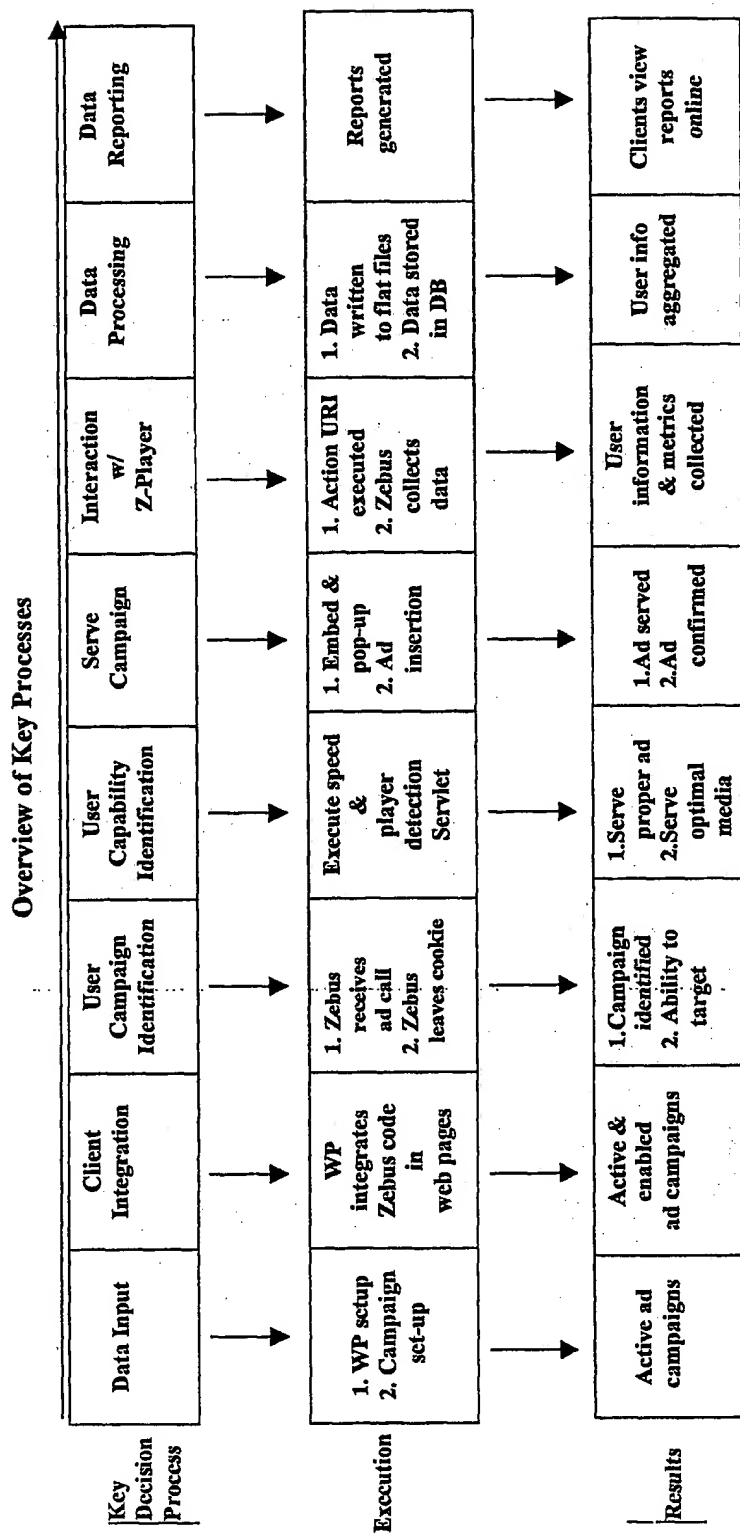
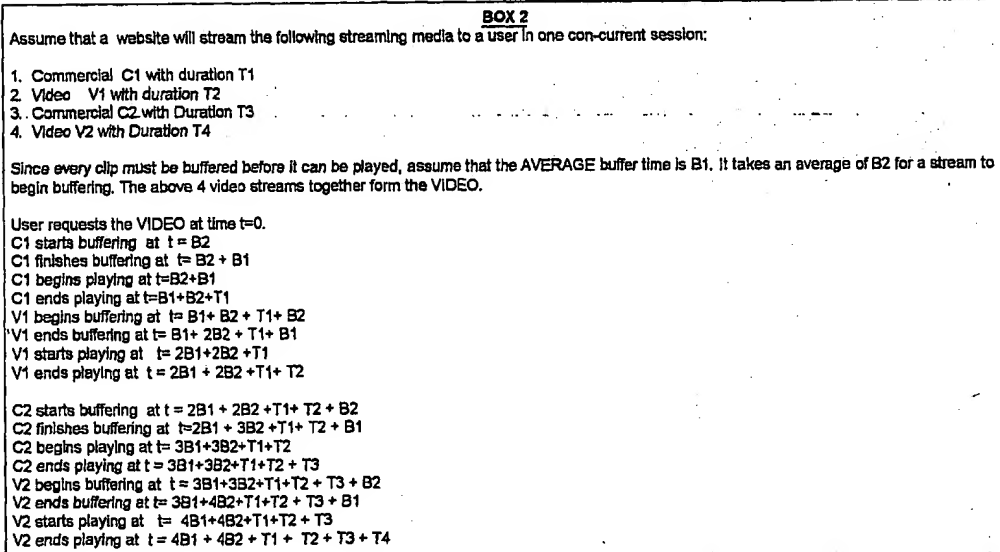
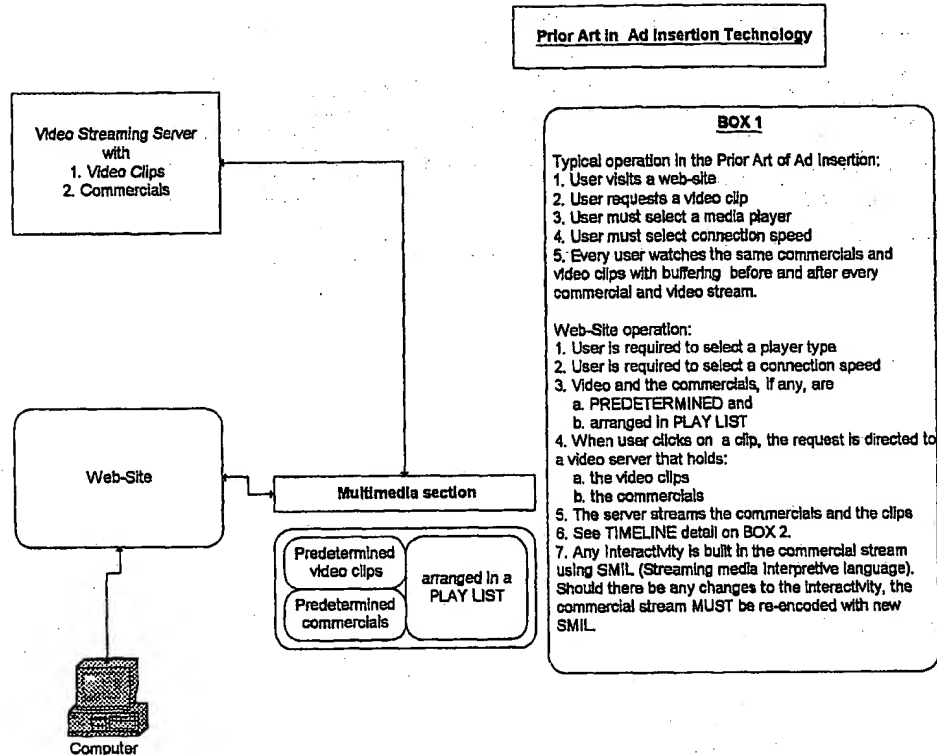


Fig. 6



**Fig. 7**  
**PRIOR ART**

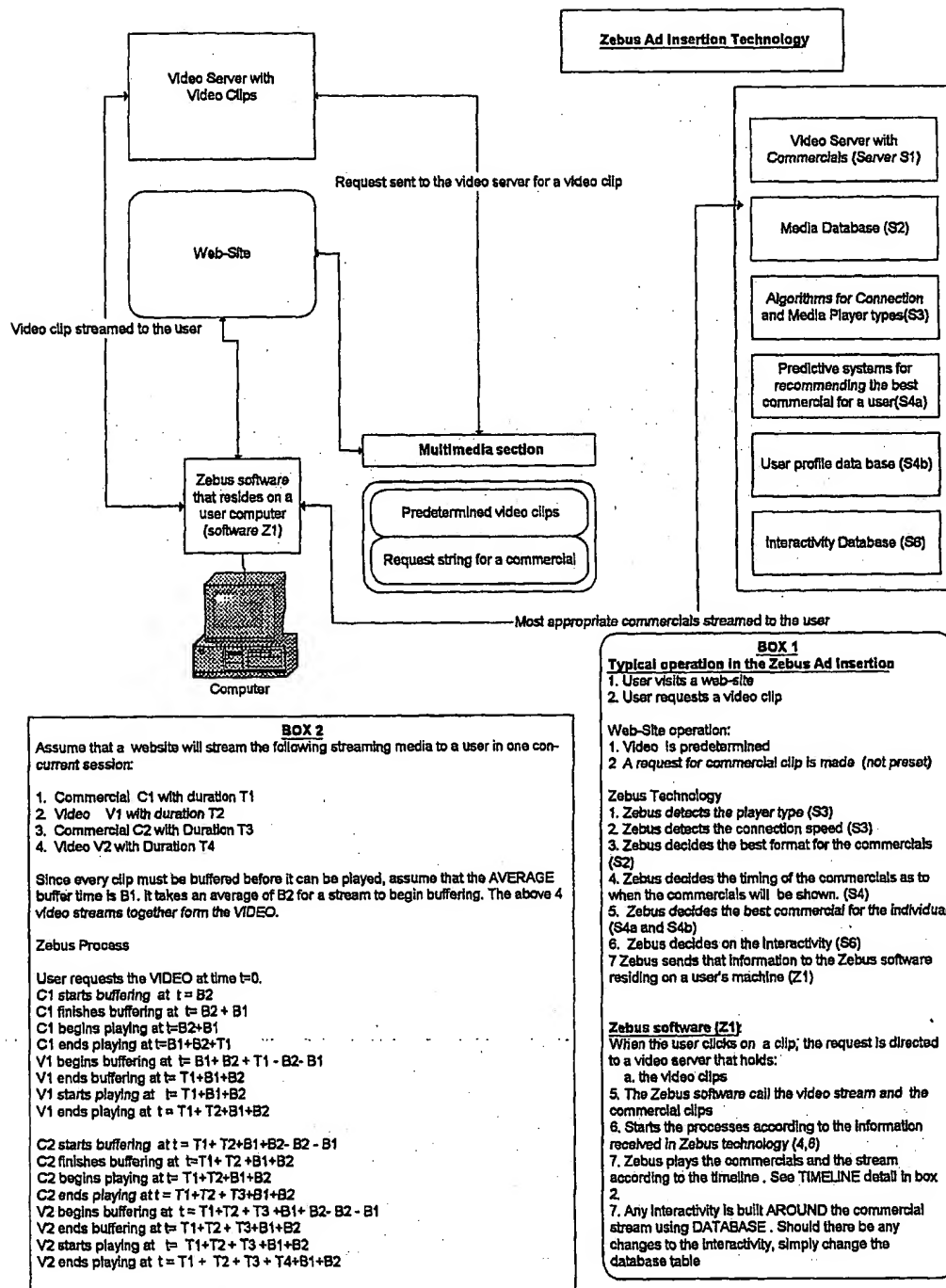


Fig. 8



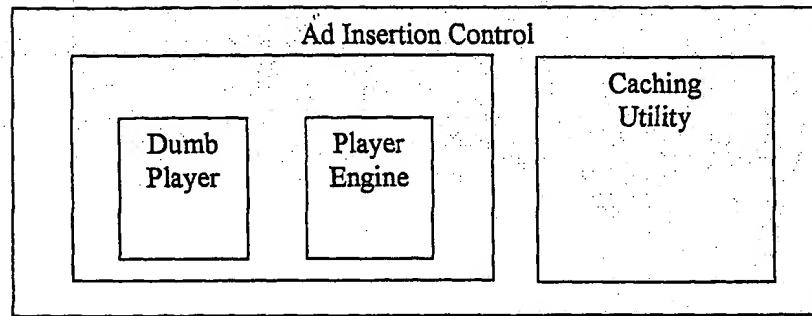


Fig. 9

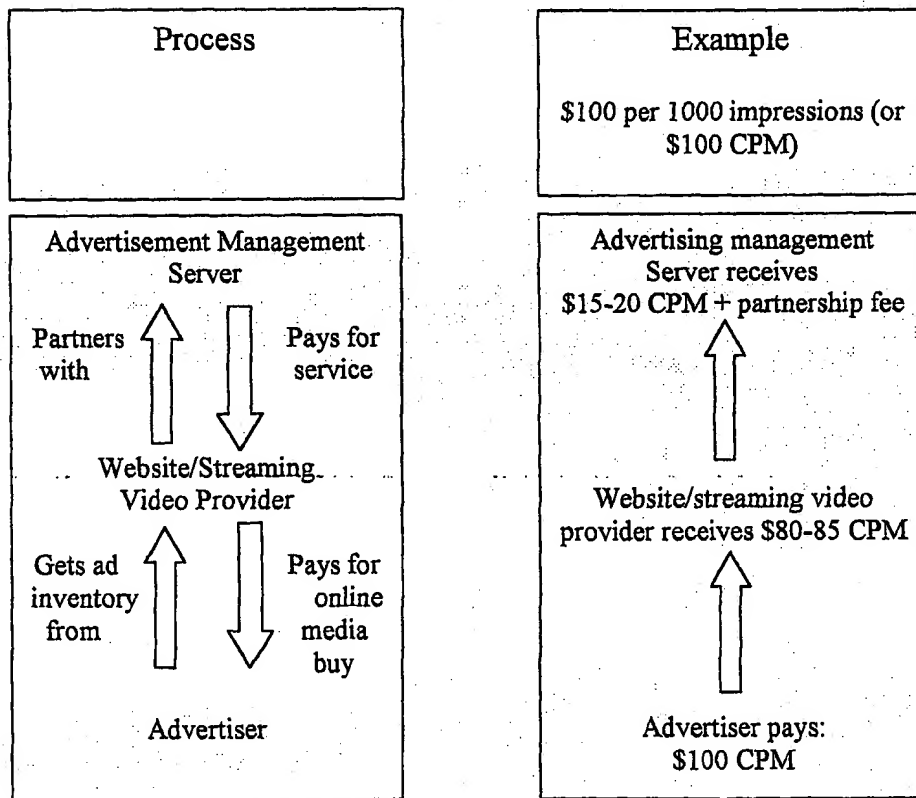


Fig. 10

## Pop-up Player with Wallpaper

**Advertiser Logo**

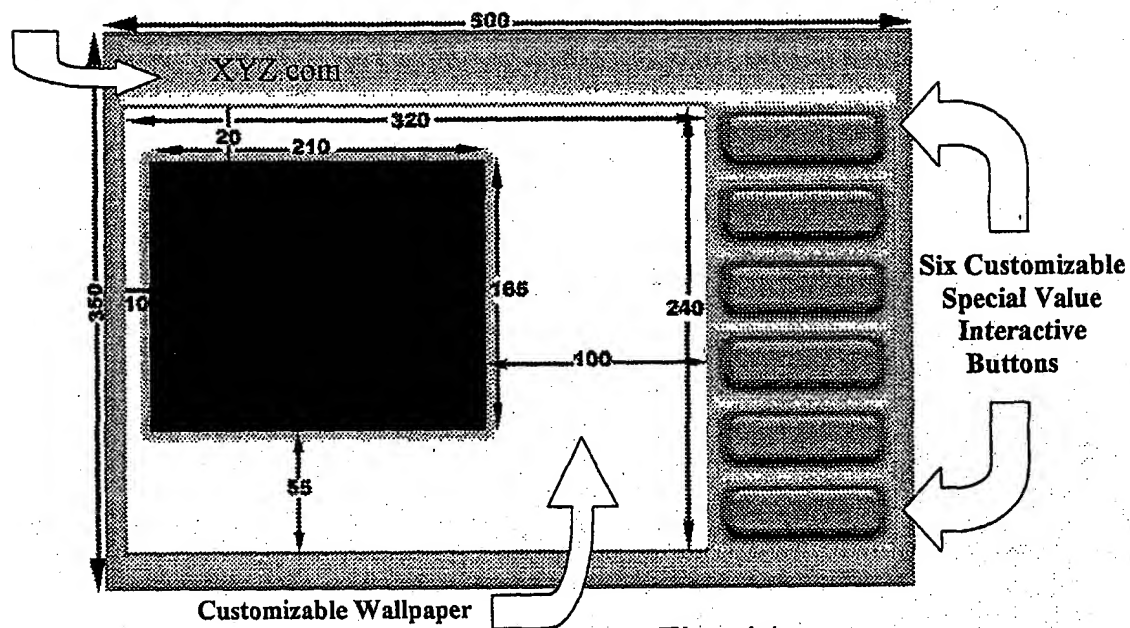
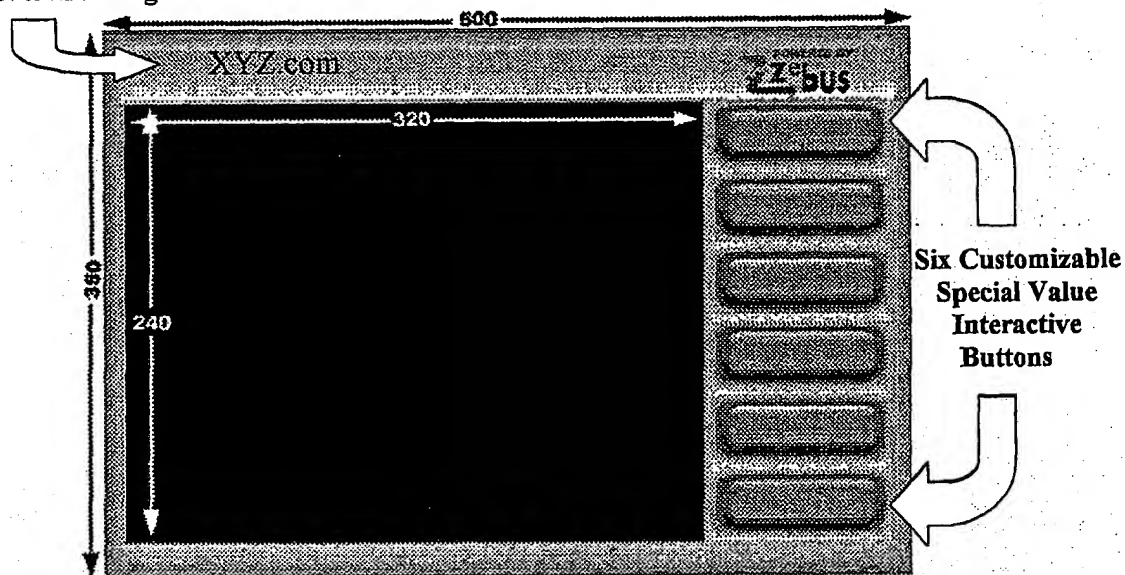


Fig. 11

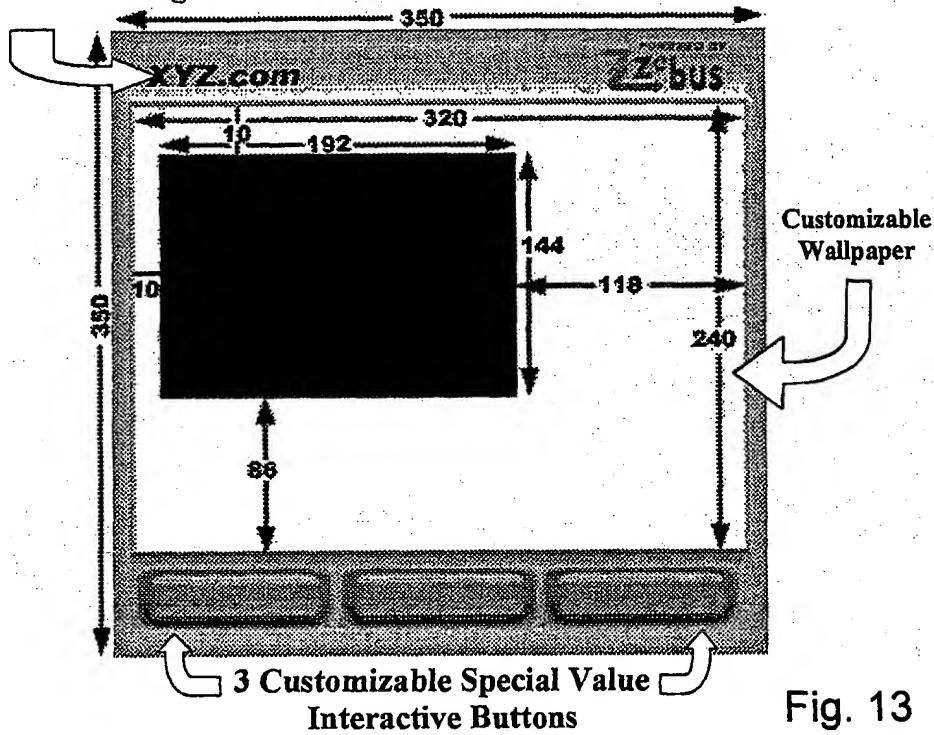
**Pop-up Player without Wallpaper**  
**Advertiser Logo**

**Advertiser Logo**

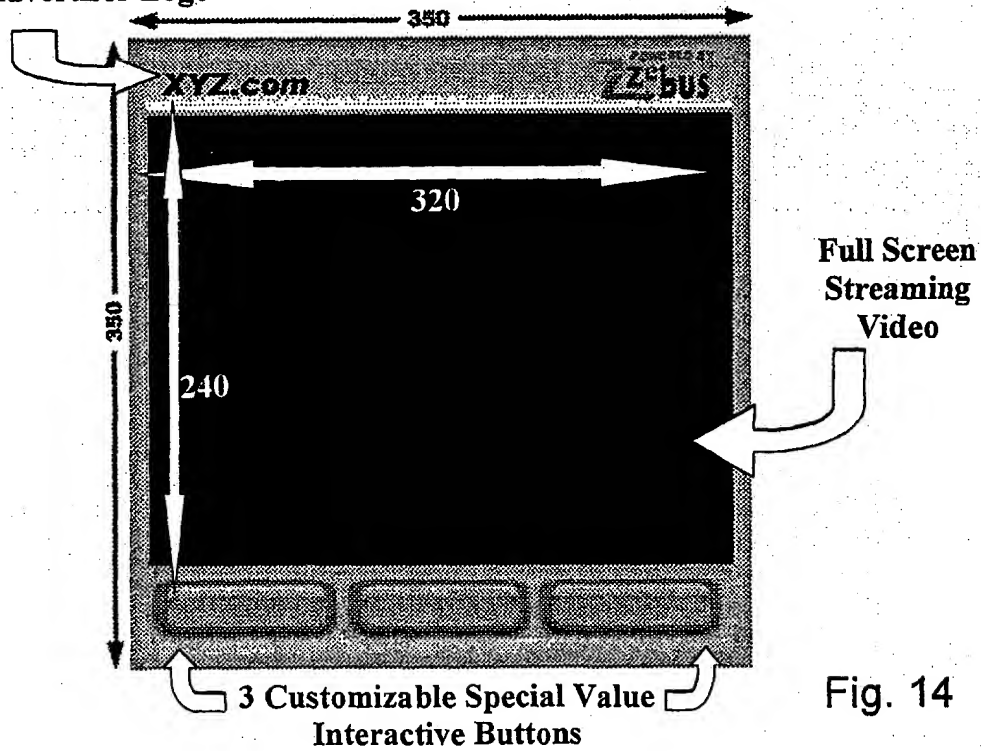


**Fig. 12**

**Ad-Insertion Player with Wallpaper  
Advertiser Logo**



**Ad-Insertion Player without Wallpaper  
Advertiser Logo**



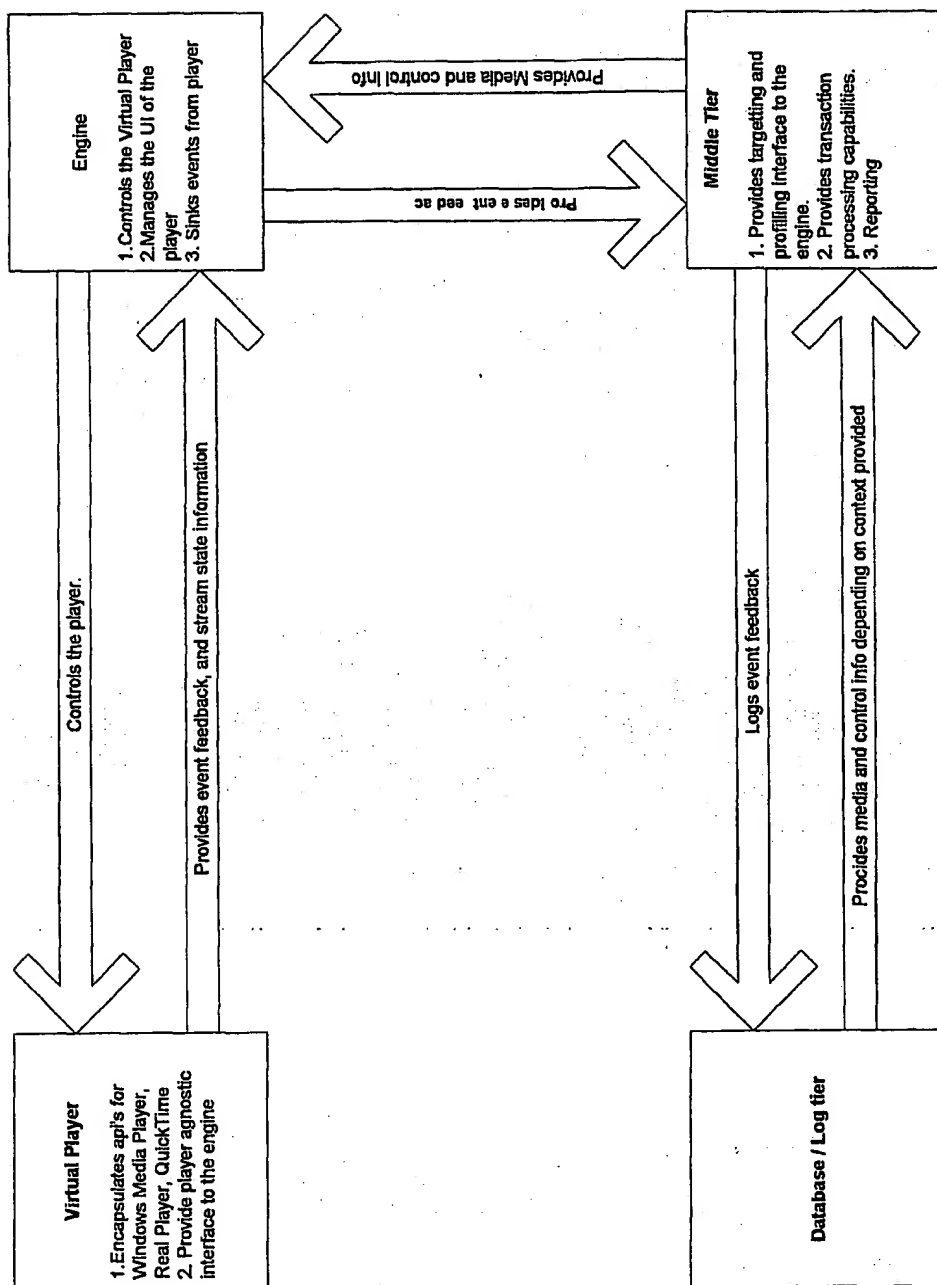


Fig. 15

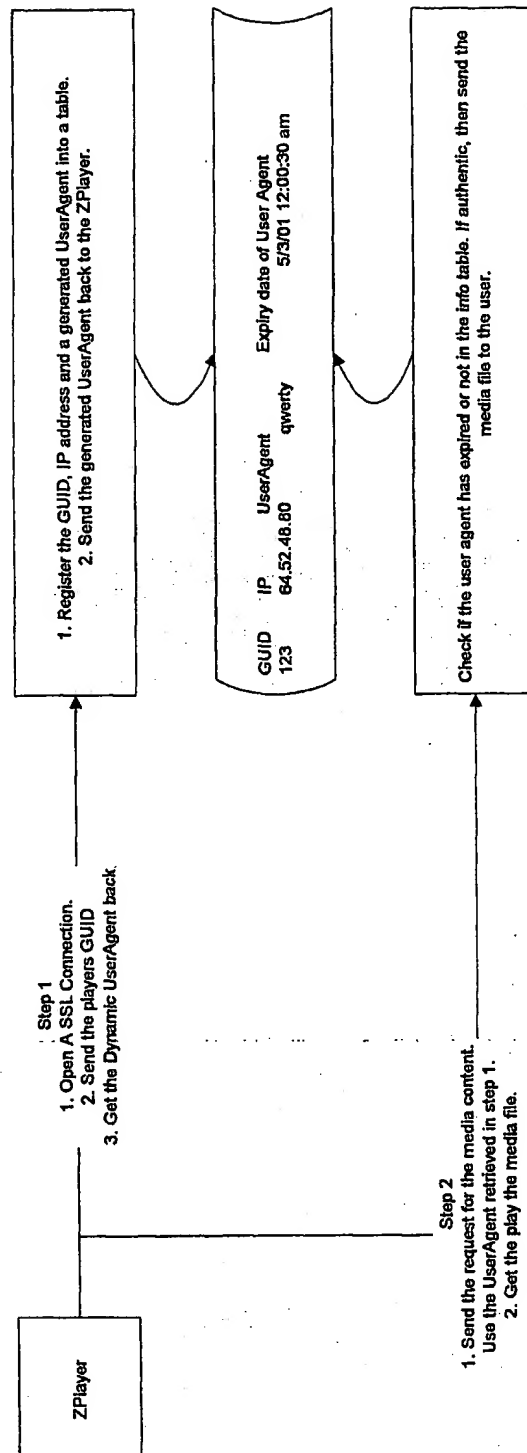


Fig. 16

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/17259

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60

US CL : 705/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST search of USPAT, US-PGPUB, EPO, JPO, Derwent WPI and IBM TDB databases.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,970,473 A (GERSZBERG et al.) 19 October 1999 (19.10.1999), col. 8 lines 22-29.	1-21
Y		112
X	US 6,006,257 A (SLEZAK) 21 December 1999 (21.12.1999), col. 4 lines 2-4.	22 and 111
X	US 5,732,216 A (LOGAN et al.) 24 March 1998 (24.03.1998), col. 17 lines 49-51, col. 4 line 48, col. 3 lines 18-25, col. 9 lines 23-25 and col. 27 lines 27-29.	23-93 and 96-110
X,P	US 6,195,680 B1 (GOLDSZMIDT et al.) 27 February 2001 (27.02.2001), col. 14 lines 1-19.	94, 95
Y	US 5,991,306 A (BURNS et al.) 23 November 1999 (23.11.1999), col. 4 lines 57-60.	112
A	US 4,890,319 A (SETH-SMITH et al.) 26 December 1989 (26.12.1989).	113-124

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:	
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"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 18 September 2001 (18.09.2001)	Date of mailing of the international search report 16 NOV 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Eric Stamber Peggy Hancock Telephone No. 703-305-3900

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